

# American River Basin

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## Attachment 3: Work Plan

### Supporting Documents

Att3\_IG1\_ARB\_Workplan\_6of10 includes the following:

Project No.	Project Name	Supporting Documentation Included	Notes
8	Sacramento Regional County Sanitation District / Sacramento Power Authority Recycled Water Project	SRCSD/SPA Recycled Water Project Feasibility Study	The Feasibility Study for the project also includes the conceptual design drawings for the project.

## **SRCSD/SPA Recycled Water Project Feasibility Study (Part 2 of 3)**



## **Attachment F**


### **Water Reclamation Facility Phase II Expansion Project – 100% Design Drawings (Jan. 2010)**



Sacramento Regional  
County Sanitation District  
Sacramento County, California



Black & Veatch Corporation  
Walnut Creek, California

 **Terada Engineering, Inc.**  
1570 The Alameda  
Suite 221  
San Jose, California 95126  
(408) 294-1445

Wastewater Treatment

Contract Documents for the Construction of

# Sacramento Regional Wastewater Treatment Plant

## WATER RECLAMATION FACILITY EXPANSION PROJECT - PHASE II

VOLUME 2 OF 2  
DRAWINGS

JANUARY 2010

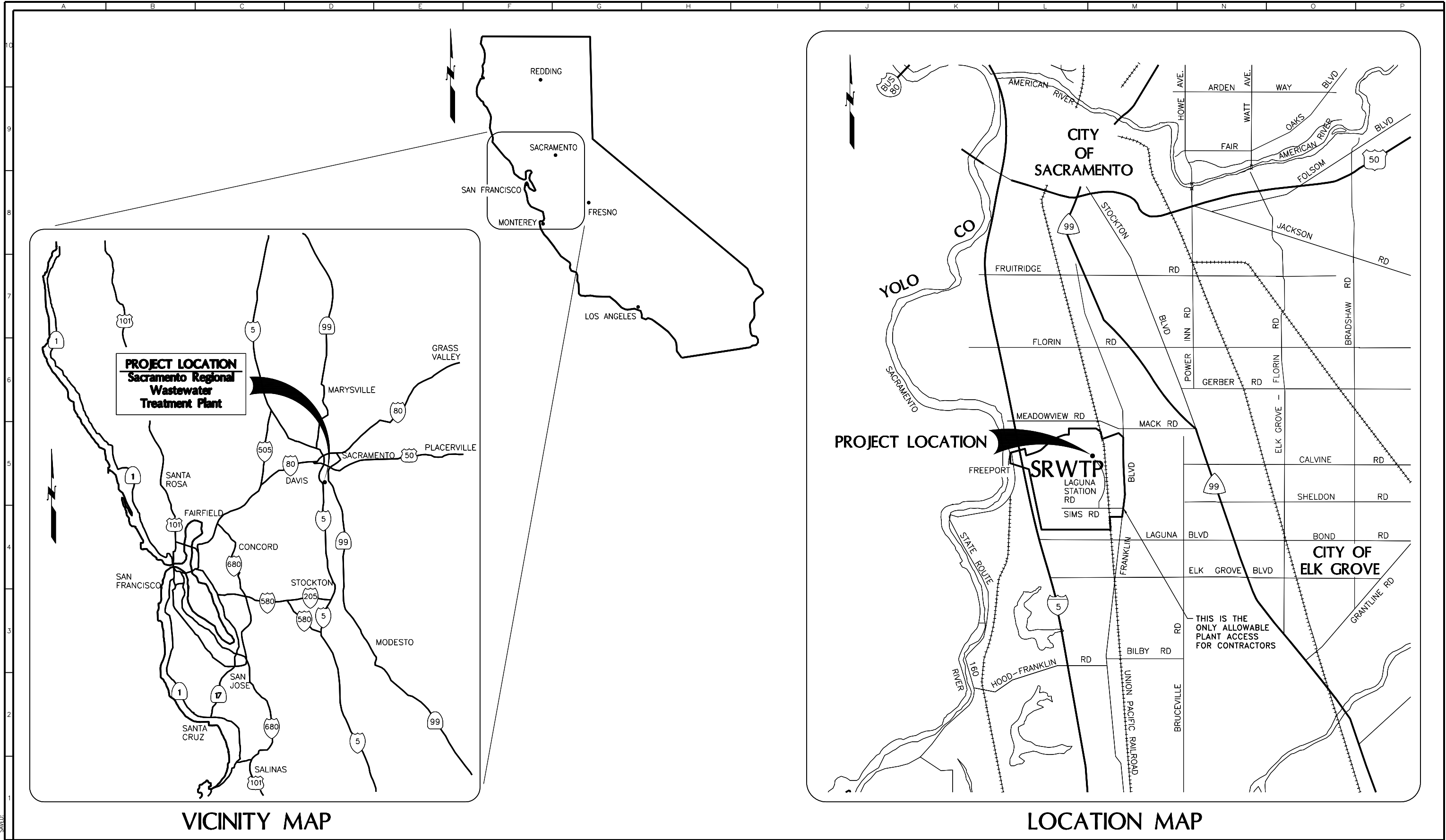
100% SUBMITTAL



CONTRACT NUMBER [XXXX]

Technology in balance with nature





FB0342202  
50342202  
PLOTTED:  
SWE

**BLACK & VEATCH**  
Building a world of difference



REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"=SCALE ACCORDINGLY)

FILE FILE NAME  
DRAWN TULLENSVANG  
DESIGNED TU  
CHECKED WY

TBD  
CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA  
  
SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY

GENERAL  
  
COVER SHEET

SCALE  
NO SCALE  
DRAWING NUMBER  
**GC002**  
SHEET NUMBER  
2 OF 236



PRELIMINARY – NOT FOR CONSTRUCTION

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SRCS D

REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"=SCALE ACCORDINGLY)

FILE	FILE NAME
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DESIGNED	TU
CHECKED	WY

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY

CIVIL

EXISTING SITE PLAN /  
CONTRACTOR'S LAYDOWN AREA

SCALE  
NO SCALE

DRAWING NUMBER  
GG003

SHEET NUMBER  
3 OF 236

TBD  
CONTRACT NUMBER

FB0342202  
5/13/2012

PLOTFILE: 1/13/2010 4:39:42 PM Batch Plot  
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 F0034202  
 B0034202

DESIGN DATA

DESIGN FLOW

NET RECLAIMED WATER PRODUCTION CAPACITY, MGD	10
REVERSE FILTRATION WATER CAPACITY, MGD	1.1
TOTAL PLANT FLOW AT RATED CAPACITY, MGD	11.1

SECONDARY EFFLUENT QUALITY

BOD, mg/L	3-15
TOTAL SUSPENDED SOLIDS, mg/L	3-13
TURBIDITY, NTU	2.2-11.7

FILTER FEED PUMP STATION

FILTER FEED PUMPS

TYPE	VERTICAL TURBINE, VARIABLE SPEED
NUMBER OF UNITS	2
RATED CAPACITY, EACH gpm	3420
RATED HEAD, ft	175
MOTOR HORSEPOWER, EACH	200
TYPE	VERTICAL TURBINE, VARIABLE SPEED
NUMBER OF UNITS	2
RATED CAPACITY, EACH gpm	800
RATED HEAD, ft	175
MOTOR HORSEPOWER, EACH	60

AUTOMATIC STRAINERS

TYPE	INLINE AUTO-BACKWASHING
NUMBER OF UNITS	3 (2 DUTY 1 STANDBY)
RATED CAPACITY, gpm	3900
POWER, hp	1 1/2

MEMBRANE SYSTEM

MEMBRANE UNITS

TYPE	PALL MICROZA, UNA-620A
NUMBER OF UNITS	5 (5 DUTY)
NUMBER OF MODULES ON EACH UNITS	114
RATED CAPACITY, gpm	7000
MAX INSTANT. FLUX, gfd	40

AIR COMPRESSOR SYSTEM

COMPRESSOR

TYPE	SINGLE STAGE W/ INTERNAL DRYER
NUMBER OF UNITS	2
RATED CAPACITY, cfm	15g

RECEIVER

TYPE	VERTICAL, CYLINDRICAL
NUMBER OF UNITS	1
RATED CAPACITY, GAL	1040g

REVERSE FILTRATION PUMPS \*

TYPE	VERTICAL TURBINE, VARIABLE SPEED
NUMBER OF NEW UNITS	2 (1 DUTY 1 STANDBY)
RATED CAPACITY, EACH gpm	912
RATED HEAD, ft	70
MOTOR HORSEPOWER, EACH	25

MUD WELL PUMPS

TYPE	SELF-PRIMING CENTRIFUGAL, CONSTANT SPEED
NUMBER OF NEW UNITS	2 (1 DUTY 1 STANDBY)
RATED CAPACITY, EACH gpm	1000
RATED HEAD, ft	50
MOTOR HORSEPOWER, EACH	25

CIP/NEUTRALIZATION SYSTEM

CIP CIRCULATION PUMPS

TYPE	VERTICAL CENTRIFUGAL, CONSTANT SPEED
NUMBER OF UNITS	3 (2 DUTY 1 BOXED SPARE)
RATED CAPACITY, EACH gpm	400
RATED HEAD, ft	80
MOTOR HORSEPOWER, EACH	15

CIP DRAIN PUMP

TYPE	VERTICAL CENTRIFUGAL, CONSTANT SPEED
NUMBER OF NEW UNITS	2 (1 DUTY 1 BOXED SPARE)
RATED CAPACITY, EACH gpm	310
RATED HEAD, ft	70
MOTOR HORSEPOWER, EACH	7 1/2

\* RF PUMPS AND PIPELINE WILL BE REDESIGNED BASED ON LATEST INFORMATION FROM PALL.

NEUTRALIZATION PUMP

TYPE	VERTICAL CENTRIFUGAL, CONSTANT SPEED
NUMBER OF UNITS	1
RATED CAPACITY, EACH gpm	310
RATED HEAD, ft	70
MOTOR HORSEPOWER, EACH	7 1/2

SODIUM HYDROXIDE TRANSFER PUMP

TYPE	CENTRIFUGAL, CONSTANT SPEED-1200 RPM
NUMBER OF UNITS	1
RATED CAPACITY, EACH gpm	12 gpm
RATED HEAD, ft	115 ft
MOTOR HORSEPOWER, EACH	1 hp

SODIUM HYPOCHLORITE PUMP

TYPE	CENTRIFUGAL, CONSTANT SPEED-1200 RPM
NUMBER OF UNITS	1
RATED CAPACITY, EACH gpm	12 gpm
RATED HEAD, ft	115 ft
MOTOR HORSEPOWER, EACH	1 hp

SODIUM BISULFITE PUMP

TYPE	CENTRIFUGAL, CONSTANT SPEED-1200 RPM
NUMBER OF UNITS	1
RATED CAPACITY, EACH gpm	4.2 gpm
RATED HEAD, ft	115 ft
MOTOR HORSEPOWER, EACH	3/4 hp

CITRIC ACID PUMP

TYPE	CENTRIFUGAL, CONSTANT SPEED-1200 RPM
NUMBER OF UNITS	1
RATED CAPACITY, EACH gpm	12 gpm
RATED HEAD, ft	115 ft
MOTOR HORSEPOWER, EACH	1 hp

SODIUM HYPOCHLORITE-DISINFECTANT PUMP

TYPE	DIAPHRAGM
NUMBER OF UNITS	3
RATED HEAD	55 ft
RATED CAPACITY, EACH gpm	0.6 gpm
MOTOR HORSEPOWER, EACH	1/2 hp

SODIUM BISULFITE-DECHLORINIZATION PUMP

TYPE	
NUMBER OF UNITS	1
RATED HEAD	55 ft
RATED CAPACITY, EACH gpm	1 gpm
MOTOR HORSEPOWER, EACH	1/2 hp

ALUM PRETREATMENT PUMP

TYPE	
NUMBER OF UNITS	1
RATED HEAD	55 ft
RATED CAPACITY, EACH gpm	0.2 gpm
MOTOR HORSEPOWER, EACH	1/2 hp

PRELIMINARY – NOT FOR CONSTRUCTION



REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)
FILE _____
DRAWN _____ RTG
DESIGNED _____ AYA
CHECKED _____

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT WATER RECLAMATION FACILITY EXPANSION PROJECT – PHASE II

GENERAL

DESIGN DATA

SCALE

NONE

DRAWING NUMBER

GG004

SHEET NUMBER

4 OF 236



PLOT: 11/13/2010 4:39:07 PM, Batch: Plot  
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 F0034202  
 B0034202

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
10	A	ACID, AMBER INDICATING LIGHT,AMP		D	DOOR		H	HIGH, HOUR, HYDROGEN		OC	ON CENTER, ODOR CONTROL	T	THERMOSTAT, TREAD, TOTALIZER			
	AB	ANCHOR BOLT		DBL	DOUBLE		HA	HIGH-PRESSURE AIR		OD	OUTSIDE DIAMETER	T	TRANSFORMER, TELEPHONE, TOP			
	ABS	ACID BATH SINK		DC	DIRECT CURRENT		HB	HOSE BIBB		OF	OUTSIDE FACE, OVERFLOW	TAN	TANGENT			
	AC	ALTERNATING CURRENT		DEG	DEGREE		HC	HOLLOW CORE		OH	OVERHEAD	TB	TERMINAL BOX			
	A/C	AIR CONDITIONER, (ING)		DEMO	DEMOLISH AND REMOVE		HDR	HEADER		OL	OVERLOAD	T&B	TOP AND BOTTOM			
	ACP	ASBESTOS CEMENT PIPE		DEPT	DEPARTMENT		HE	HEAT EXCHANGER		OPER	OPERATING	T&E	THREAD BOTH ENDS			
	ACST	ACOUSTIC, (AL		DET	DETAIL		HEX	HEXAGONAL		OPNG	OPENING	TBM	TEMPORARY BENCHMARK			
	AD	ACCESS DOOR, AREA DRAIN, AIR DAMPER, ANODE		DF	DRINKING FOUNTAIN		HF	HOSE FAUCET		OPP	OPPOSITE	TC	TOWEL CABINET, TOP OF CURB			
	ADD	ADDITIONAL		DH	DOOR HEIGHT		HGL	HYDRAULIC GRADE LINE		OSL	OUTSTANDING LEG	TC	TERMINAL CABINET			
	ADH	ADHESIVE		DI	DROP INLET, DUCTILE IRON		HGT	HEIGHT		OZ	OUNCE	TEL	TELESCOPING			
	ADJ	ADJUSTABLE, ADJACENT		DIA	DIAMETER		HH	HANDHOLE				TEMP	TEMPERATURE, TEMPORARY			
	ADMIN	ADMINISTRATION		DIFF	DIFFUSER		HLS	HIGH LEVEL SWITCH		PC	POINT OF CURVE	TERM	TERMINAL			
	AF	AIR FLOW		DIM	DIMENSION		HMC	HARNESSED MECHANICAL COUPLING		PCC	POINT OF COMPOUND CURVATURE	T&G	TONGUE & GROOVE			
	AFF	ABOVE FINISH FLOOR		DIP	DUCTILE IRON PIPE		HMD	HOLLOW METAL DOOR		PCCP	PRESTRESSED CONCRETE CYLINDER PIPE	TH	TEST HOLE			
	AH	AHEAD		DISCH	DISCHARGE		HMJ	HARNESSED MECHANICAL JOINT		PCP	PIER CUTOFF POINT	THK	THICK, THICKNESS			
	AHU	AIR HANDLING UNIT		DISP	DISPENSER		HORIZ	HORIZONTAL		PD	PLAN DIMENSION	THR	THRESHOLD			
	AL	ACTIVE LEAF		DIST	DISTRIBUTION		HP	HIGH POINT, HORSEPOWER		PE	PLAIN END	TI	TOTALIZING INDICATOR, TEMPERATURE INDICATOR			
	ALT	ALTERNATE, (IVE)		DIV	DIVISION		HR	HOUR, HANDRAIL		PG	PRESSURE GAUGE	TIR	TOTALIZING INDICATING RECORDER			
	ALUM	ALUMINUM		DL	DEAD LOAD		HS	HIGH STRENGTH		PH	PIPE HANGER, PENTHOUSE	TOC	TOP OF CONCRETE			
	ALM	ALUM SOLUTION		DM	DAMPER MOTOR		HV	HOSE VALVE		PI	POINT OF INTERSECTION	TOF	TOP OF FOOTING			
	AM	AMMETER		DMJ	DOUBLE MECHANICAL JOINT		HVAC	HEATING,VENTILATING AND AIR CONDITIONING		PIVC	POINT OF INTERSECTION ON VERTICAL CURVE	TOM	TOP OF MASONRY			
	AMP	AMPERE		DN	DOWN		HW	HOT WATER		PL	PLATE	TOS	TOP OF STEEL			
	ANOD	ANODIZED		DO	DOOR OPENING, DISSOLVED OXYGEN		HWY	HIGHWAY		PLYWD	PLYWOOD	TP	TWISTED PAIR COUPLE, TOWEL PIN			
	AP	ACCESS PANEL		DPDT	DOUBLE POLE DOUBLE THROW		HYDRO	HYDRONEUMATIC		PNL(S)	PANEL(S)	TRANS	TRANSFORMER, TRANSMITTER, TRANSFER			
	APPR	APPROACH		DRAIN	DRAIN					POLY	POLYMER	TS	TEMPERATURE SWITCH			
	APPROX	APPROXIMATE, (LY)		DS	DOWNSPOUT, DIGESTED SLUDGE					POT	POINT ON TANGENT	TV	TELEVISION			
	AR	ALARM RELAY		DT	DISTRIBUTION TRANSFORMER		I	INDICATOR		PP	POWER POLE	TYP	TYPICAL			
	ARCH	ARCHITECTURAL		DV	DRAIN VALVE		ID	INSIDE DIAMETER		PR	PAIR					
	AS	AMMETER SWITCH		DWG(S)	DRAWING(S)		IF	INSIDE FACE		PROJ	PROJECTION	UDM	ULTRASONIC DENSITY METER			
	ASSY	ASSEMBLY		DWL(S)	DOWEL(S)		I/I	CURRENT TO CURRENT BOOSTER		PRS	PRESSURE REDUCING STATION	UGND	UNDERGROUND			
	AUTO	AUTOMATIC					IN	INCHES		PRV	POWER ROOF VENTILATOR	UH	UNIT HEATER			
	AUX	AUXILIARY					INC	INCORPORATED		PS	PIPE SUPPORT	UNO	UNLESS NOTED OTHERWISE			
	AVS	AUTOMATIC VALVE STATION		E	EAST, ELECTRICAL		INCL	INCLUDING		PSF	POUNDS PER SQUARE FOOT	UR	URINAL			
	AVG	AMERICAN WIRE GAGE		EA	EACH		INCR	INCREASE		PSI	POUNDS PER SQUARE INCH	USGS	UNITED STATES GEOLOGICAL SURVEY			
				EAT	ENTERING AIR TEMPERATURE		INST	INSTRUMENT, (ATION)		PT	POINT, POINT OF TANGENCY					
	B	BEAM		EC	END CURVE		INSUL	INSULATE, (ED), (ING)		PVC	POLYVINYL CHLORIDE, POINT ON VERTICAL CURVE	V	VALVE, VOLT, VENT			
	B TO B	BACK TO BACK		ECC	ECCENTRIC		INT	INTERIOR, INTERNAL		PVCP	POLYVINYL CHLORIDE PIPE	VAC	VACUUM			
	BA	BEARING AREA		ECC RED	ECCENTRIC REDUCER		INV	INVERT		PVMT	PAVEMENT	VAT	VINYL ASBESTOS TILE			
	BAL	BALANCE		EEW	EMERGENCY EYEWASH		IPS	IRON PIPE SIZE				VBF	VALVE, AWWA BUTTERFLY			
	BAT	BATTERY		EF	EACH FACE					R	RADIUS, RISER	VBI	VALVE, INDUSTRIAL BUTTERFLY			
	BC	BEGIN CURVE		EFF	EFFLUENT					RAS	RETURN ACTIVATED SLUDGE	VBL	VALVE, BALL			
	BD	BOARD		EFM	ENHANCED FLUX MAINTENANCE		JAN	JANITOR		RCP	REINFORCED CONCRETE PIPE	VBM	VALVE, BALL MISCELLANEOUS			
	BEJ	BRICK EXPANSION JOINT		EJ	EXPANSION JOINT		JB	JUNCTION BOX		RCCP	REINFORCED CONCRETE CYLINDER PIPE	VC	VERTICAL CURVE, VICTAULIC COUPLING			
	BF	BLIND FLANGE		EL	ELEVATION		JF	JOINT FILLER		RCHEP	REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE	VCD	VERTICAL CONTROL DAMPER			
	BFV	BUTTERFLY VALVE		ELB	ELBOW		JT	JOINT		RD	ROOF DRAIN, ROAD	VCK	VALVE, CHECK			
	BHP	BRAKE HORSEPOWER		ELEC	ELECTRIC, (AL)					RDL	ROOF DRAIN LEADER	VCL	VALVE, CONE			
	BITUM	BITUMINOUS		ELEV	ELEVATOR		K	KIPS		RECEP	RECEPTION	VCP	VITRIFIED CLAY PIPE			
	BKR	BREAKER		EMER	EMERGENCY		KIT	KITCHEN		RECIRC	RECIRCULATING	VG	VALVE, GATE			
	BLDG	BUILDING		ENC	ENCASEMENT		KO	KNOCK OUT		RECP	RECEPTACLE	VGD	VALVE, DOUBLE DISC GATE			
	BLK	BLOCK		ENCL	ENCLOSURE		KS	KITCHEN SINK		RED	REDUCER, REDUCING	VGL	VALVE, GLOBE			
	BM	BENCHMARK		ENT	ENTRANCE		KV	KILOVOLT		REG	REGULATOR, REGULATING	VERT	VERTICAL			
	BOF	BOTTOM OF FOOTING		EOL	END OF LINE		KVA	KILOVOLT AMPERE		REF	REFERENCE	VF	VACUUM FILTER			
	BOT	BOTTOM		EQ	EQUAL		KW	KILOWATT		REFR	REFRIGERATION, REFRIGERATOR	VIB	VIBRATION			
	BP	BACK PRESSURE		EQUIP	EQUIPMENT		KWH	KILOWATT HOUR		REINF	REINFORCING	VKG	VALVE, KNIFE GATE			
	BPMK NO	BASEPLATE MARK NUMBER		EW	EACH WAY					REM	REMOVABLE	VM	VOLT METER			
	BRG	BEARING		EW	EMERGENCY EYEWASH		L	LOUVER		REQD	REQUIRED	VNR	VENEER			
	BRK	BRICK		EWEF	EACH WAY EACH FACE		LA	LOW-PRESSURE AIR		RET	RETURN	VPC	VALVE, PRESSURE REGULATING			
	BS	BOTH SIDES		EXCH	EXCHANGER		LAB	LABORATORY		REV	REVISION, REVISED, REVERSED	VPG	VALVE, PLUG			
	B&S	BELL AND SPIGOT		EXH	EXHAUST		LAM	LAMINATE(D)		RF	REVERSE FILTRATION	VPL	VALVE, ECCENTRIC PLUG			
	BSMT	BASEMENT		EXIST	EXISTING		LAT	LEAVING AIR TEMPERATURE		RFG	ROOFING	VPR	VALVE, PRESSURE REDUCING			
	BTU	BRITISH THERMAL UNIT		EXP	EXPANSION, EXPOSED		LAV	LAVATORY		RFW	REVERSE FILTRATION WASTE	VSP	VALVE, PRESSURE RELIEF			
	BTUH	BRITISH THERMAL UNIT-HOUR		EXP JT	EXPANSION JOINT		LAV	LAVATORY		RG	RETAINER GLAND	VSPV	VALVE, PRESSURE/VACUUM RELIEF			
	BU	BELL UP		EXT	EXTENSION, EXTERIOR, EXTERNAL		LB(S)	POUNDS		RH	ROOF HOOD, RIGHT HAND, ROUND HEAD, RED HEAD	VSV	VALVE, VACUUM RELIEF			
	BUR	BUILT UP ROOFING					LG	LENGTH, LONG		RHMS	ROUND HEAD MACHINE SCREW	VV	VENT VALVE			
	BVC	BEGIN VERTICAL CURVE					LH	LEFT HAND		RHWS	ROUND HEAD WOOD SCREW	VVB	VACUUM BREAKER			
				F	FAN		LL	LIVE LOAD		RM	ROOM					
	C	COUNTER		F TO F	FACE TO FACE		LO	LOUVER OPENING		RO	ROUGH OPENING	W	WEST, WIDE, WINDOW, WATT, WATER			
	C TO C	CENTER TO CENTER		FB	FACE BRICK		LS	LEVEL SWITCH		RR	REVOLUTIONS PER MINUTE	W/	WITH			
	CTA	CITRIC ACID		FBW	FILTER BACKWASH		LT	LEFT, LAB TABLE		RS	RAW SLUDGE, RAW SEWAGE, ROLLED STEEL	WB	WALLBOARD			
	CB	CATCH BASIN		FC	FLEXIBLE CONNECTION, FLOW CONTROL					RT	RIGHT	WC	WATER CLOSET			
	CD	CHEMICAL DRAIN		FCA	FLANGED COUPLING ADAPTER					RT/W	RIGHT OF WAY	WD	WOOD, WIDTH			
	C/EJ	CONTRACTION/EXPANSION JOINT		FD	FLOOR DRAIN		MA	MILLIAMPERE		S	SOUTH, SPEAKER	WF	WALL FITTING			
	CFM	CUBIC FEET PER MINUTE		FDN	FOUNDATION		MACH	MACHINE		SBIS	SODIUM BISULFITE	WFBW	WASTE FILTER BACKWASH			
	C&G	CURB AND GUTTER		FDPR	FIRE DAMPER		MAINT	MAINTENANCE		SCHED	SCHEDULE	WH	WALL HYDRANT			
	CHKD	CHECKERED		FE	FIRE EXTINGUISHER		MAN	MANUAL		SCLS	SODIUM HYPOCHLORITE	WL	WATER LEVEL			
	CI	CAST IRON		FEC	FIRE EXTINGUISHER CABINET		MAS	MASONRY		SD	SANITARY DRAIN	WM	WATER METER, WATTMETER			
	CIH	CAST IRON MANHOLE		FG	FINISHED GRADE		MAX	MAXIMUM		SE	SECONDARY EFFLUENT	WN	NONPOTABLE WATER			
	CIHMS	CAST IRON MANHOLE STEPS		FH	FLAT HEAD, FIRE HYDRANT		MB	MACHINE BOLT		SEC	SECOND	WO	WINDOW OPENING			
	CIP	CAST IRON PIPE, CLEAN IN PLACE		FHMS	FLAT HEAD MACHINE SCREW		MC	MECHANICAL COUPLING		SECT	SECTION	W/O	WITHOUT			
	CISP	CAST IRON SOIL PIPE		FIG	FIGURE		MCC	MOTOR CONTROL CENTER		SER SK	SERVICE SINK	WOM	WOMEN			
	CJT	CONTROL JOINT		FIN	FINISH		MECH	MECHANICAL		SG	SLUICE GATE, SUPPLY GRILLE	WP	WATERPROOF, WORKING POINT, WATER POTABLE			
	CKT	CIRCUIT		FIN GR	FINISH GRADE		MED	MEDIUM		SH	SHEET	WR	WASTE RECEPTACLE			
	CL	CLASS		FL	FLOOR, FLOW LINE		MEZ	METAL		SHR	SHOWER	WRF	RECLAIMED WATER FILTERED			
	C/L	CENTERLINE		FLEX	FLEXIBLE		MFF	MEMBRANE FILTRATION FILTRATE		SHD	SHOWER DOOR	WS	WATERSTOP			
	CLG	CEILING		FLG	FLANGE, FLASHING		MFM	MAGNETIC FLOWMETER		SIM	SIMILAR	WT	WEIGHT			
	CLO	CLOSET		FM	FORCE MAIN		MFR(S)	MANUFACTURER(S)		SKL	SKYLIGHT	WW	WETWELL			
	CLR	CLEAR, (ANCE)		FO	FUEL OIL		MG	MILLION GALLONS		SME	SAMPLE LINE	WWF	WELDED WIRE FABRIC			
	CMP	CORRUGATED METAL PIPE		FOB	FLAT ON BOTTOM		MGD	MILLION GALLONS PER DAY		SP	SUMP PUMP					
	CMU	CONCRETE MASONRY UNIT		FOM	FACE OF MASONRY		MH	MANHOLE		SPA	SPACING, SPACES	x	BY, TIMES			
	CO	CLEAN OUT, COMPANY		FOS	FACE OF STUDS		MIN	MINIMUM, MINUTE		SPEC(S)	SPECIFICATION(S)	YH	YARD HYDRANT			
	COD	CHEMICAL OXYGEN DEMAND		FOT	FLAT ON TOP		MISC	MISCELLANEOUS		SPLY	SUPPLY					
	COL	COLUMN		FRP	FIBERGLASS REINFORCED PLASTIC		MJ	MECHANICAL JOINT		SQ	SQUARE					
	COMB	COMBINATION		FS	FAR SIDE, FLOOR SLEEVE, FLOAT SWITCH		MJRG	MECHANICAL JOINT RETAINER GLAND		SS	STAINLESS STEEL					
	COMB SWR	COMBINED SEWER		FT	FOOT		MJTR	MECHANICAL JOINT WITH TIE ROD		SKS	SERVICE SINK					
	COMP	COMPRESSOR, (ED)		FTG	FOOTING		MP	METERING PUMP		ST	SELF TAPPING					
	CONC	CONCRETE		FURN	FURNISH, FURNISHED		MRD	METAL ROOF DECK		STA	STATION					
	CONN	CONNECTION		FV	FLAP VALVE		MS	MACHINE SCREW		STD	STANDARD, STORM DRAIN					
	CONST	CONSTRUCTION		FWD	FORWARD		MSL	MEAN SEA LEVEL		STL	STEEL					
	CONT	CONTINUOUS, CONTINUATION, CONTROL					MTD	MOUNTED		STOR	STORAGE					
	CONTR	CONTRACTOR		G	GAS		MTL	MATERIAL		STR	STRUCTURAL					
	COR	CORNER		GAL	GALLON		MTR	MOTOR		STRD	STRAINER DRAIN					
	CORR	CORRIDOR, CORRUGATED		GALV	GALVANIZED		MW	MUD WELL WASTE		SUP	SUPPLY					
	CP	CONTROL PANEL		GC/MS	GAS CHROMATOGRAPH/MASS SPECTROMETER		N	NORTH		SUSP	SUSPENDED					
	CPLG	COUPLING		GEN	GENERAL, GENERATOR		N/A	NOT APPLICABLE		SV	SHUTOFF VALVE					
	CPT	CONTROL POWER TRANSFORMER		GPM	GALLONS PER MINUTE		NC	NORMALLY CLOSED		SW	SWITCH					
	CRS	COURSES, (ING)		GR	GRADE		NTL	NEUTRALIZATION WASTE		SWBD	SWITCHBOARD					
	CS	CONTROL SWITCH, CONTROL STATION, CUP SINK		GW	GYPSUM WALLBOARD		NF	NEAR FACE		SWGR	SWITCHGEAR					
	CSO	CAUSTIC SODA		GYP	GYPSUM		N.O.	NORMALLY OPEN		SWS	SEAL WATER SOLENOID					
	CSK	COUNTERSUNK, (INK)					N.O.(S)	NORMALLY OPEN NUMBER(S)		SYM	SYMMETRICAL					
	CT	CERAMIC TILE, CYCLE TIMER					NOM	NOMINAL		SYS	SYSTEM					
	CT	CURRENT TRANSFORMER					NORM	NORMAL								
	CTR(S)	CENTER(S)					NPT	NATIONAL PIPE THREAD								
	CU	CUBIC					NS	NEAR SIDE								
	CU YD	CUBIC YARD					NTS	NOT TO SCALE								
	CV	CHECK VALVE														
	CW	COLD WATER														

PRELIMINARY – NOT FOR CONSTRUCTION



REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)	
FILE _____	
DRAWN _____ GT	
DESIGNED _____ AYA	
CHECKED _____	

CONTRACT NUMBER

SACRAMENTO REGIONAL  
 SANITATION DISTRICT  
 OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
 WASTEWATER TREATMENT PLANT  
 WATER RECLAMATION FACILITY  
 EXPANSION PROJECT – PHASE II

GENERAL  
 ABBREVIATIONS

SCALE

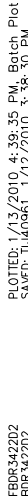
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DRAWING NUMBER

GG005

SHEET NUMBER

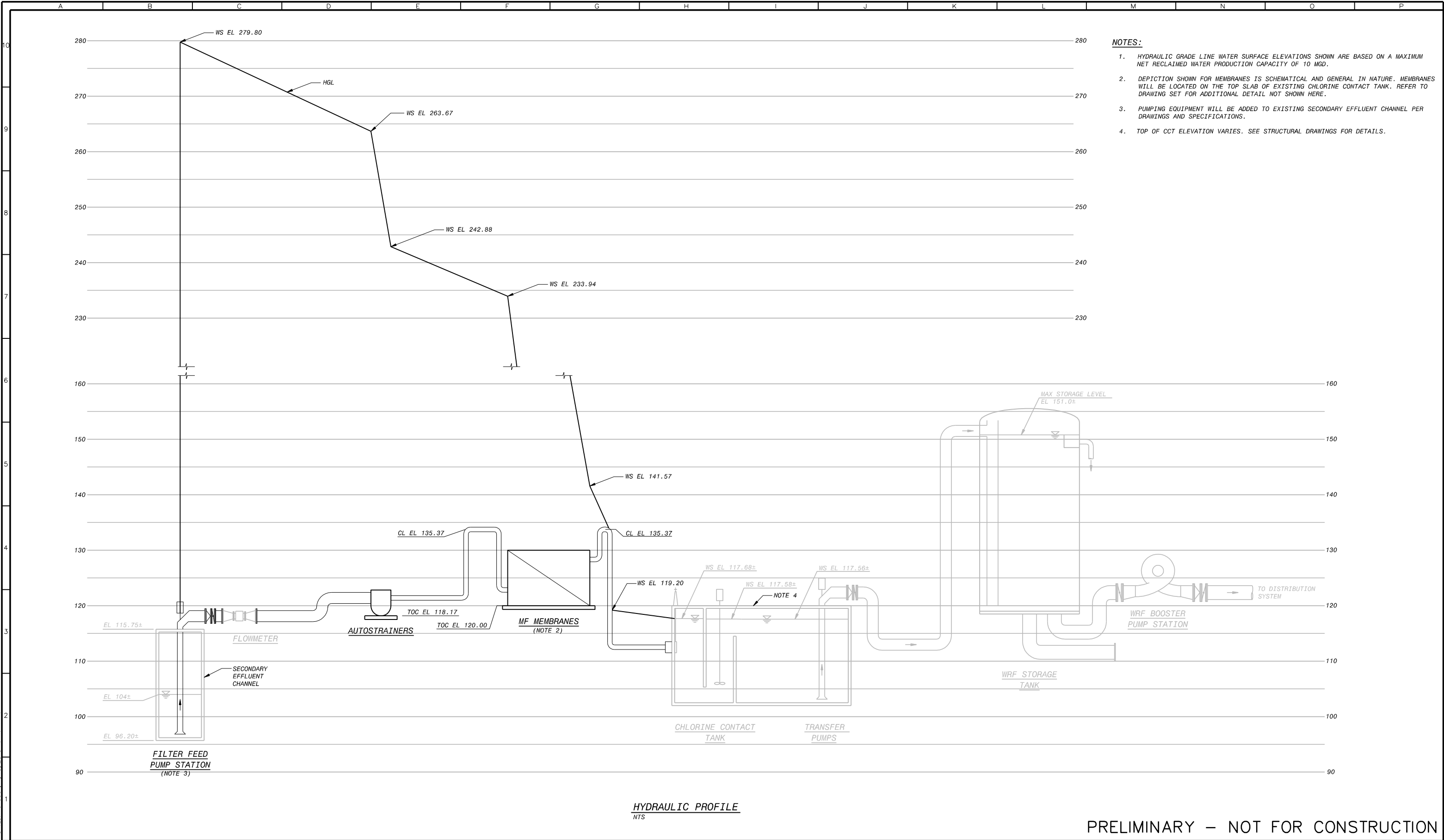
5 OF 236





PLOT FILE: 1/13/2010 4:40:00 PM Batch Plot  
SAVE: 11/09/09 1:17:13 2010 1:44:14 PM

BBB-34202  
BBB-34202



PRELIMINARY – NOT FOR CONSTRUCTION

**BLACK & VEATCH**  
Building a world of difference



REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"=SCALE ACCORDINGLY)	
FILE	
DRAWN	JMM
DESIGNED	JWW
CHECKED	

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA  
  
SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT – PHASE II

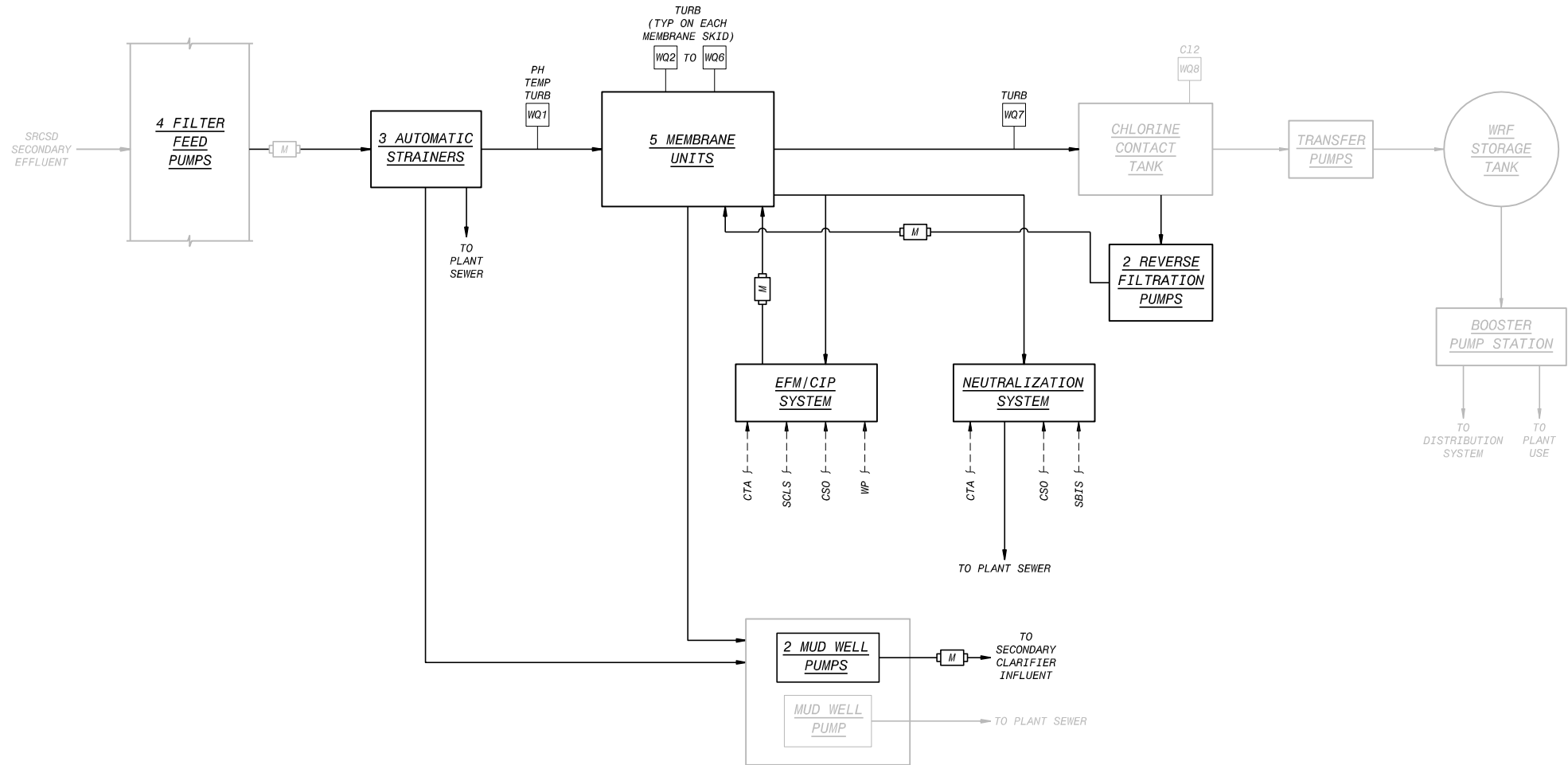
GENERAL  
MEMBRANE FILTRATION SYSTEM  
HYDRAULIC PROFILE

SCALE  
AS NOTED

DRAWING NUMBER  
**GG007**

SHEET NUMBER  
7 OF 236

PLOTTED: 1/13/2010, 4:40:05 PM, Batch Plot  
 SAVED: 11/09/09, 12/30/2009 11:29:59 AM  
 F0034202  
 B0034202



NOTES:  
 1. THIS PROCESS FLOW DIAGRAM IS A GENERAL OVERVIEW,  
 SO NOT ALL PIPING, VALVES, AND INSTRUMENTATION  
 ARE SHOWN. SEE P&IDS AND OTHER DRAWINGS FOR  
 ADDITIONAL DETAIL.

LEGEND:  
 WQ WATER QUALITY SAMPLING STATION  
 --- CHEMICAL FEED LINE

PRELIMINARY – NOT FOR CONSTRUCTION

BV BLACK & VEATCH  
 Building a world of difference



REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES  
 AT FULL SIZE  
 (IF NOT 2"=SCALE ACCORDINGLY)

FILE \_\_\_\_\_  
 DRAWN \_\_\_\_\_  
 DESIGNED \_\_\_\_\_  
 CHECKED \_\_\_\_\_

CONTRACT NUMBER

SACRAMENTO REGIONAL  
 SANITATION DISTRICT  
 OF SACRAMENTO COUNTY, CALIFORNIA

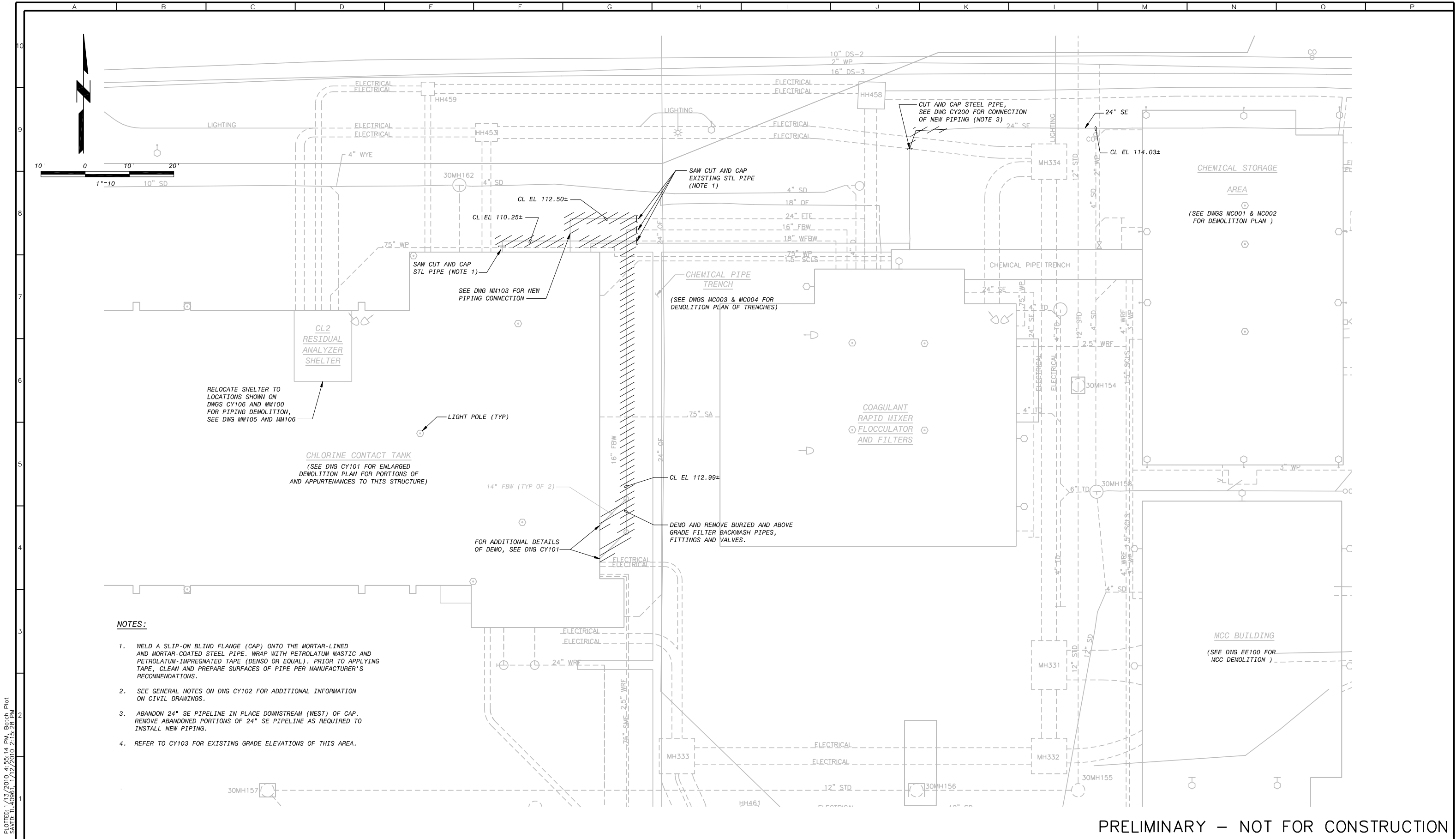
SACRAMENTO REGIONAL  
 WASTEWATER TREATMENT PLANT  
 WATER RECLAMATION FACILITY  
 EXPANSION PROJECT – PHASE II

GENERAL  
 PROCESS FLOW DIAGRAM FOR  
 MEMBRANE FILTRATION SYSTEM



SCALE  
 NO SCALE



DRAWING NUMBER  
 GG008

SHEET NUMBER  
 8 OF 236



PRELIMINARY – NOT FOR CONSTRUCTION





REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)

FILE \_\_\_\_\_

DRAWN JMM

DESIGNED JWW

CHECKED \_\_\_\_\_

CONTRACT NUMBER \_\_\_\_\_

SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT WATER RECLAMATION FACILITY EXPANSION PROJECT – PHASE II

CIVIL

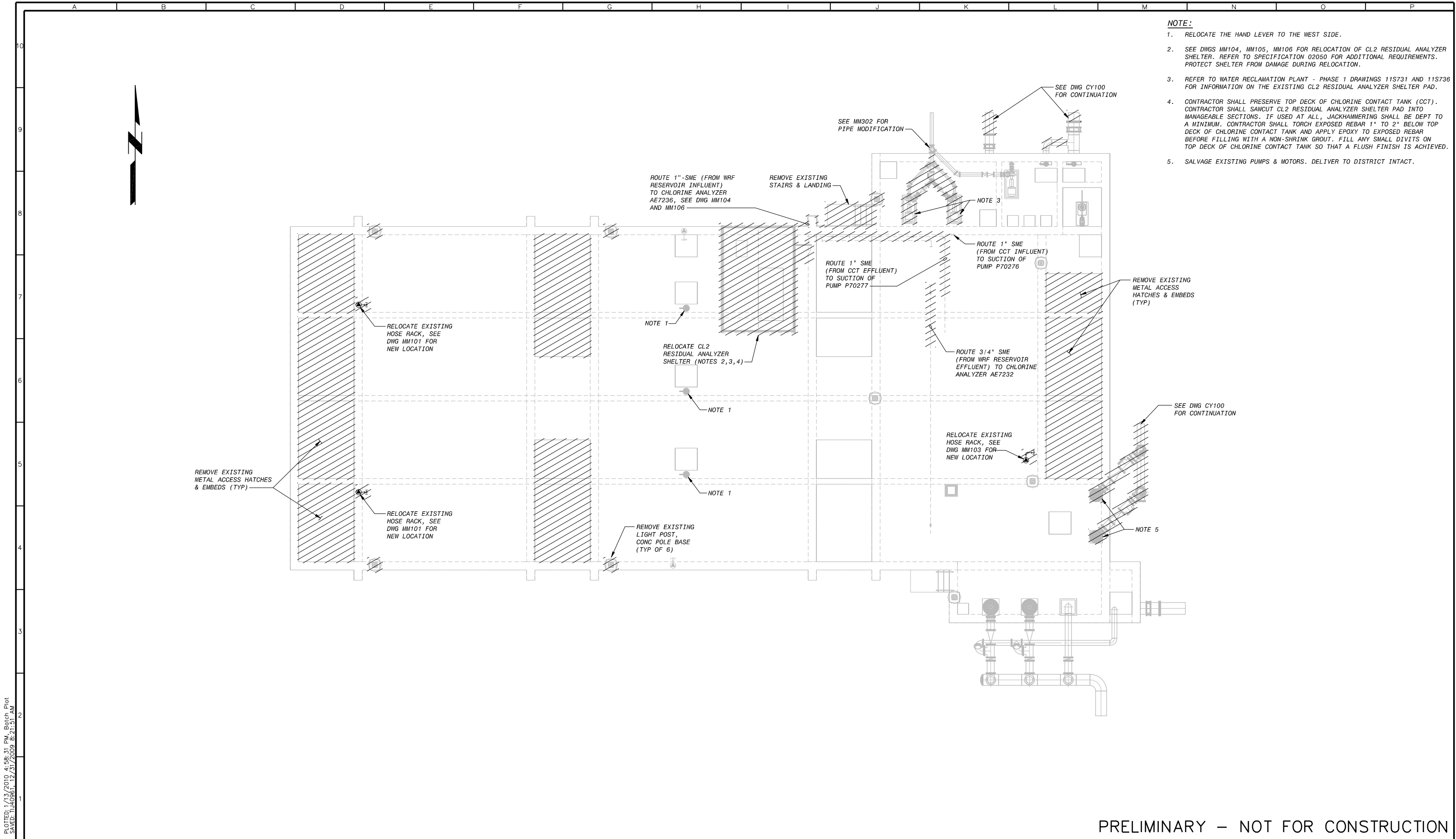
SITE PIPING DEMOLITION PLAN

SCALE 1"=10'

DRAWING NUMBER CY100

SHEET NUMBER 9 OF 236

PLOTTED: 1/13/2010 4:55:14 PM Batch Plot  
SAVED: T:\40361\1/12/2010 2:15:28 PM  
BDR342202  
BDR342202



- NOTE:**
1. RELOCATE THE HAND LEVER TO THE WEST SIDE.
  2. SEE DWGS MM104, MM105, MM106 FOR RELOCATION OF CL2 RESIDUAL ANALYZER SHELTER. REFER TO SPECIFICATION 02050 FOR ADDITIONAL REQUIREMENTS. PROTECT SHELTER FROM DAMAGE DURING RELOCATION.
  3. REFER TO WATER RECLAMATION PLANT - PHASE 1 DRAWINGS 11S731 AND 11S736 FOR INFORMATION ON THE EXISTING CL2 RESIDUAL ANALYZER SHELTER PAD.
  4. CONTRACTOR SHALL PRESERVE TOP DECK OF CHLORINE CONTACT TANK (CCT). CONTRACTOR SHALL SAWCUT CL2 RESIDUAL ANALYZER SHELTER PAD INTO MANAGEABLE SECTIONS. IF USED AT ALL, JACKHAMMERING SHALL BE DEPT TO A MINIMUM. CONTRACTOR SHALL TORCH EXPOSED REBAR 1" TO 2" BELOW TOP DECK OF CHLORINE CONTACT TANK AND APPLY EPOXY TO EXPOSED REBAR BEFORE FILLING WITH A NON-SHRINK GROUT. FILL ANY SMALL DIVITS ON TOP DECK OF CHLORINE CONTACT TANK SO THAT A FLUSH FINISH IS ACHIEVED.
  5. SALVAGE EXISTING PUMPS & MOTORS. DELIVER TO DISTRICT INTACT.

PRELIMINARY – NOT FOR CONSTRUCTION

Plotter: 1/13/2010 4:58:31 PM Batch Plot  
Saved: T:\403661\_12/31/2009 8:21:51 AM  
BDR342202  
BDR342202



REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
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	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)	
FILE	
DRAWN	GT
DESIGNED	AYA
CHECKED	

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA  
  
SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT – PHASE II




CIVIL  
CHLORINE CONTACT TANK  
DEMOLITION PLAN

SCALE 1/8"=1'-0"
DRAWING NUMBER CY101
SHEET NUMBER 10 OF 236

(THE FOLLOWING ARE GENERAL NOTES THAT SHALL APPLY TO ALL CIVIL DRAWINGS)

- 
- 2000' 1000' 0 2000' 4000'
- 1"=2000'
- SITE PLAN**
- 1" = 2000'-0"



SURVEY GRID MONUMENT DATA *			
NUMBER	DESCRIPTION	COORDINATES	ELEVATION
 1	SIMS ROAD	E 2,151,701.789 N 285,066.658	116.749
 3	BRASS DISC SET IN CONCRETE SACRAMENTO COUNTY MONUMENT	E 2,152,599.93 N 285,050.94	115.06
 14	MONUMENT D-5	E 2,153,249.542 N 284,818.756	113.728

\* MONUMENT INFORMATION AS INDICATED ON DWG 11G21 FROM PHASE 1 AS-BUILTS.

## AREA 4

# AREA 3

## AREA 2

**AREA 1**

MIXED  
UID CHANNEL

## SEDIMENTATION TANKS

— MODIFIED FILTER  
FEED PUMP STATION

CHEMICAL  
STORAGE AREA

MCC  
BUILDING

**KEY PLAN**  
1" = 100'-0"

$$1'' = 100' - 0''$$

PRELIMINARY – NOT FOR CONSTRUCTION

AREA	GRADING AND PAVING PLAN	SITE PIPING PLAN
AREA 1	CY103	CY106
AREA 2	CY104	NOT USED
AREA 3	CY105	CY108
AREA 4	NOT USED	CY109



REVISIONS					LINE IS 2 INCHES	
ZONE	REV.	DESCRIPTION	BY	DATE	APP.	AT FULL SIZE
	A	50% SUBMITTAL		09/09		(IF NOT 2"=SCALE ACCORDINGLY)
	B	90% SUBMITTAL		11/09		
	C	100% SUBMITTAL		01/10		
						FILE
						DRAWN <u>          </u> GT
						DESIGNED <u>          </u> JWW
						CHECKED <u>          </u>

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"-SCALE ACCORDINGLY)

FILE \_\_\_\_\_  
DRAWN \_\_\_\_\_ GT \_\_\_\_\_  
DESIGNED \_\_\_\_\_ JWW \_\_\_\_\_  
CHECKED \_\_\_\_\_

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT – PHASE II

CIVIL

KEY PLAN AND GENERAL NOTES

SCALE

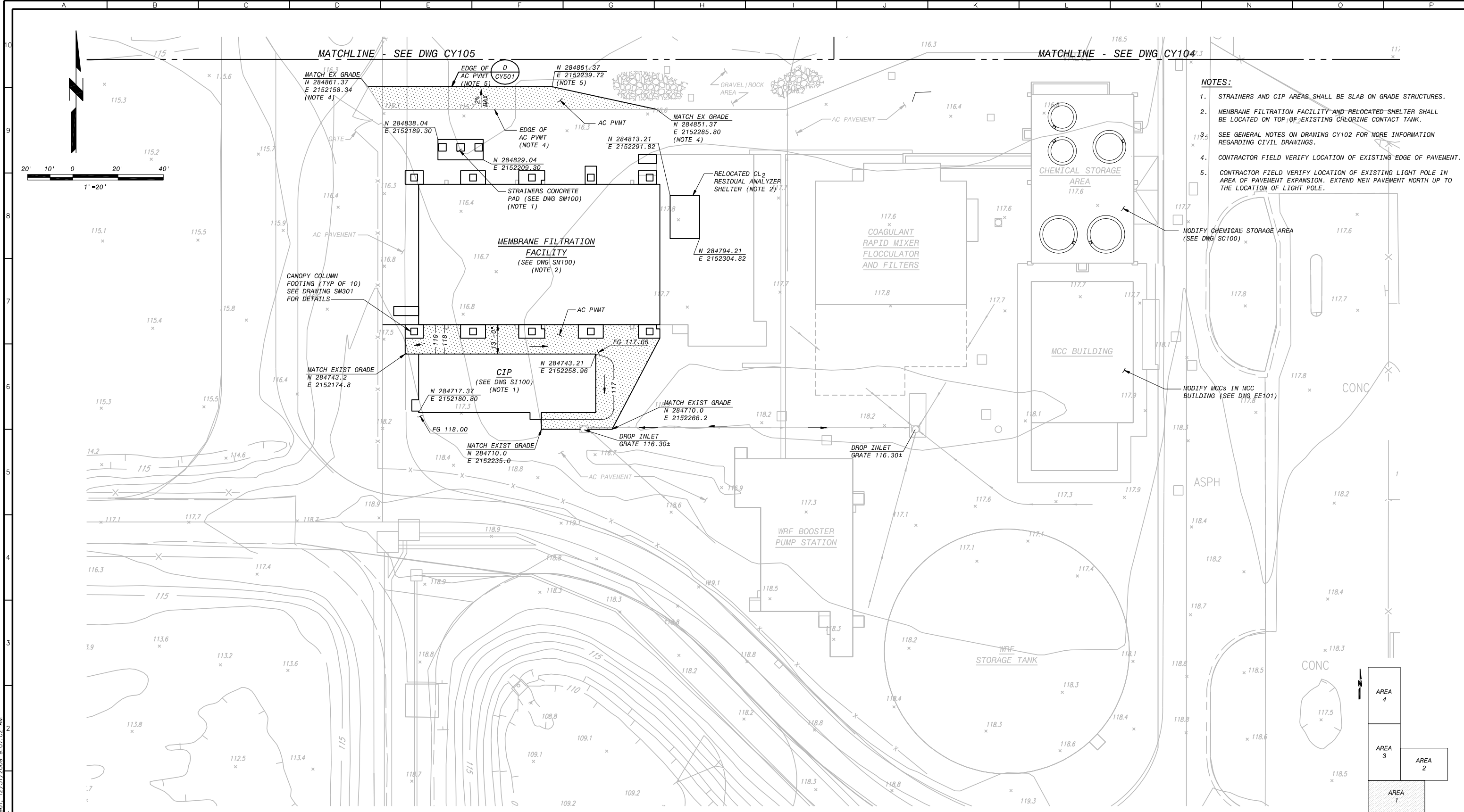
AS NOTED

DRAWING NUMBER

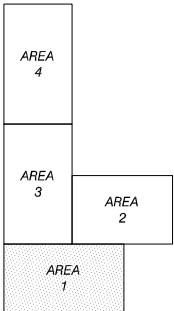
CY102

SHEET NUMBER

11 OF 236



- NOTES:**
1. STRAINERS AND CIP AREAS SHALL BE SLAB ON GRADE STRUCTURES.
  2. MEMBRANE FILTRATION FACILITY AND RELOCATED SHELTER SHALL BE LOCATED ON TOP OF EXISTING CHLORINE CONTACT TANK.
  3. SEE GENERAL NOTES ON DRAWING CY102 FOR MORE INFORMATION REGARDING CIVIL DRAWINGS.
  4. CONTRACTOR FIELD VERIFY LOCATION OF EXISTING EDGE OF PAVEMENT.
  5. CONTRACTOR FIELD VERIFY LOCATION OF EXISTING LIGHT POLE IN AREA OF PAVEMENT EXPANSION. EXTEND NEW PAVEMENT NORTH UP TO THE LOCATION OF LIGHT POLE.



PRELIMINARY – NOT FOR CONSTRUCTION

PLotted: 1/13/2010 5:02:41 PM, Batch Plot  
Saved: 1/14/2010 9:02:02 AM

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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"-SCALE ACCORDINGLY)

FILE \_\_\_\_\_

DRAWN GT

DESIGNED JWW

CHECKED \_\_\_\_\_

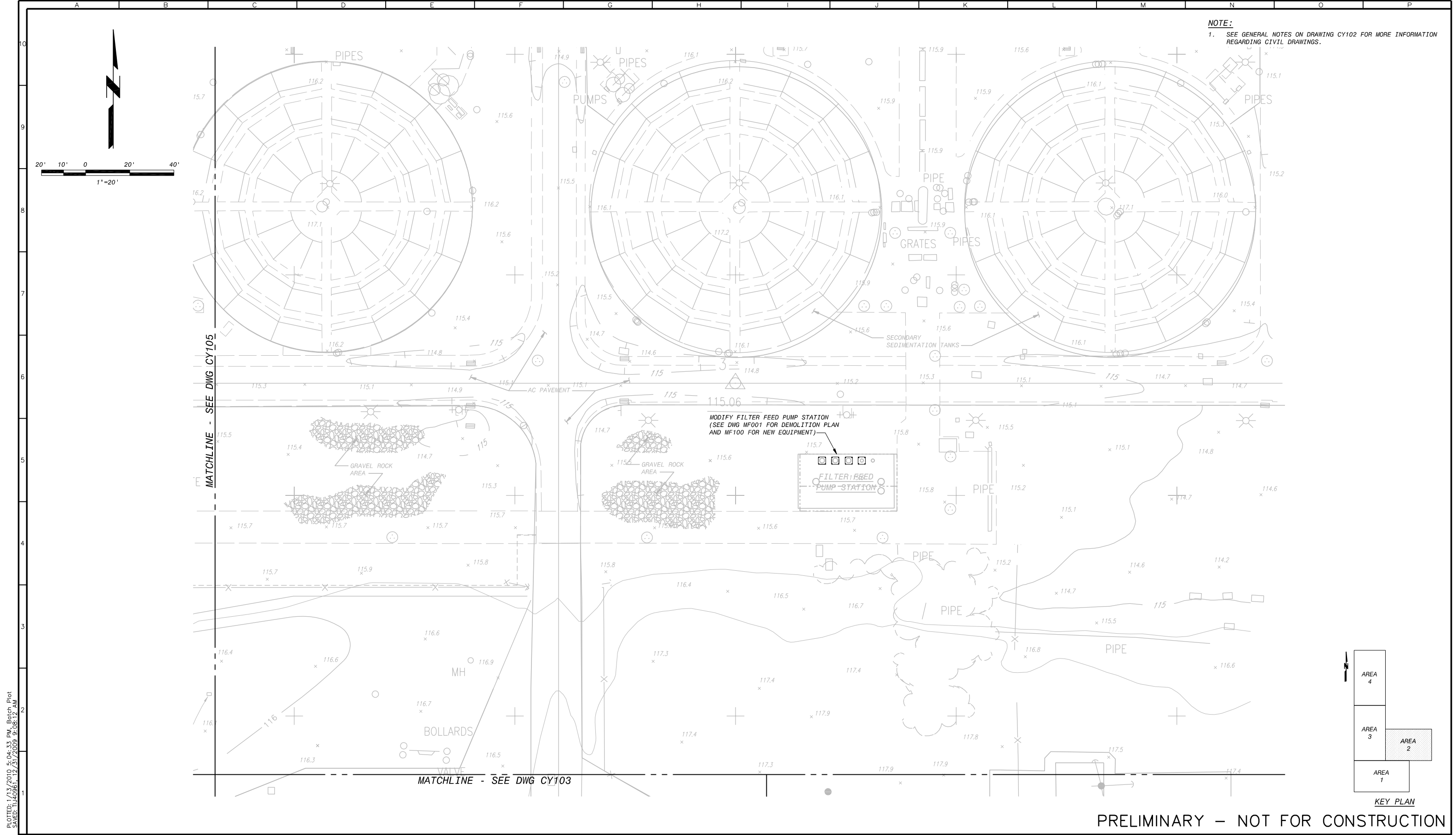
CONTRACT NUMBER \_\_\_\_\_

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT – PHASE II

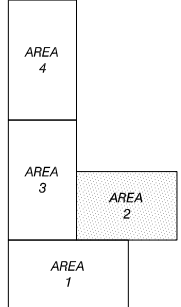
CIVIL  
GRADING AND PAVING PLAN  
AREA 1

SCALE 1"=20'
DRAWING NUMBER <b>CY103</b>
SHEET NUMBER 12 OF 236



NOTE:  
1. SEE GENERAL NOTES ON DRAWING CY102 FOR MORE INFORMATION REGARDING CIVIL DRAWINGS.

Plotted: 1/13/2010 5:04:33 PM, Batch Plot  
Saved: 1/14/2010 9:08:12 AM



KEY PLAN

PRELIMINARY – NOT FOR CONSTRUCTION

Building a world of difference

REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)

FILE \_\_\_\_\_

DRAWN GT

DESIGNED JWW

CHECKED \_\_\_\_\_

CONTRACT NUMBER \_\_\_\_\_

SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT WATER RECLAMATION FACILITY EXPANSION PROJECT – PHASE II

CIVIL

GRADING AND PAVING PLAN

AREA 2

SCALE

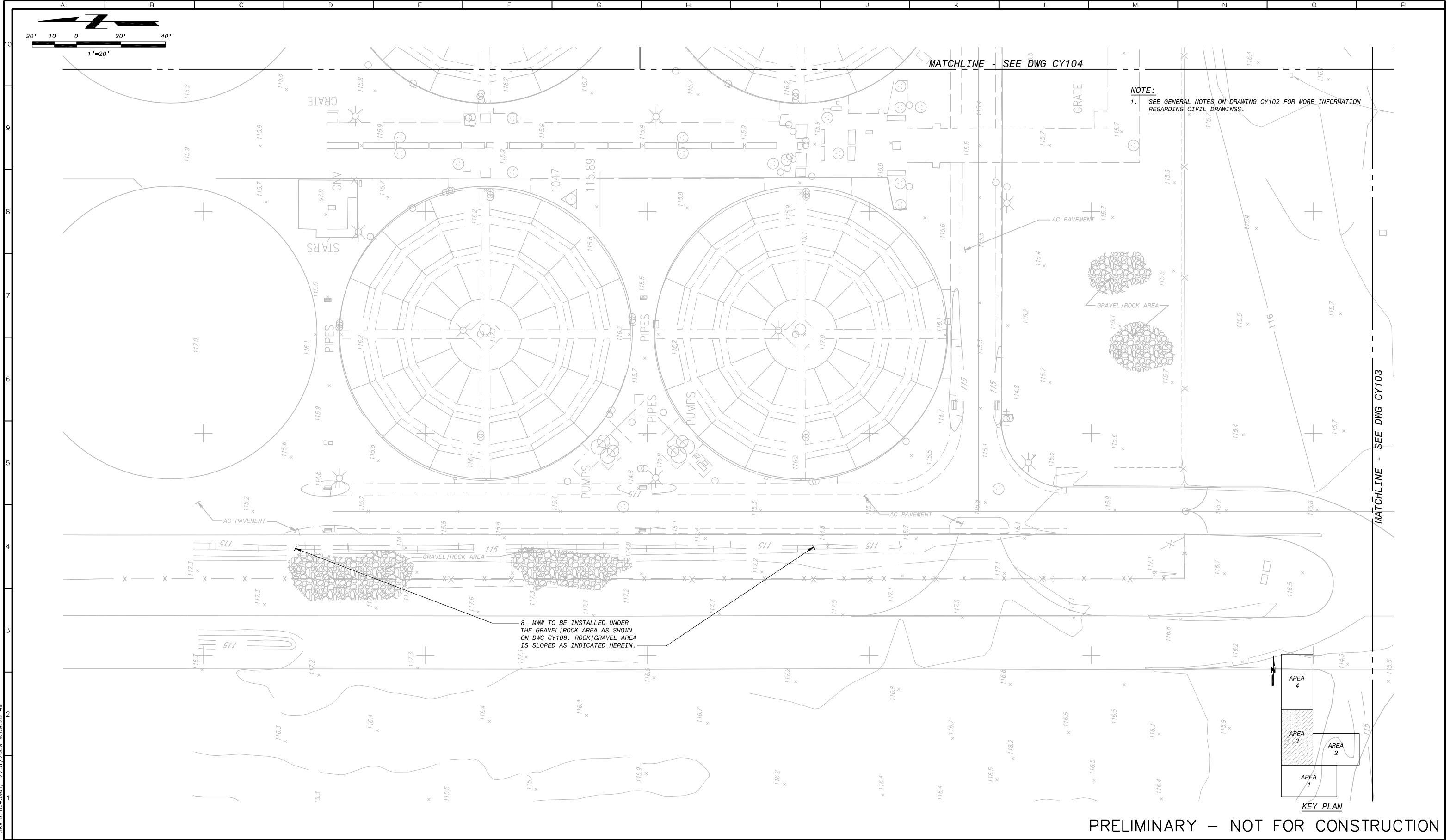
1"=20'

DRAWING NUMBER

CY104

SHEET NUMBER

13 OF 236



8" MW TO BE INSTALLED UNDER THE GRAVEL/ROCK AREA AS SHOWN ON DWG CY108. ROCK/GRAVEL AREA IS SLOPED AS INDICATED HEREIN.

PRELIMINARY – NOT FOR CONSTRUCTION

Plotted: 1/13/2010 5:05:46 PM, Batch Plot  
Saved: 1/14/2010 12:31:20 PM 9:09:28 AM  
FBR342202  
FBR342202

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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"-SCALE ACCORDINGLY)

FILE \_\_\_\_\_  
DRAWN GT  
DESIGNED JWW  
CHECKED \_\_\_\_\_

CONTRACT NUMBER \_\_\_\_\_

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT – PHASE II

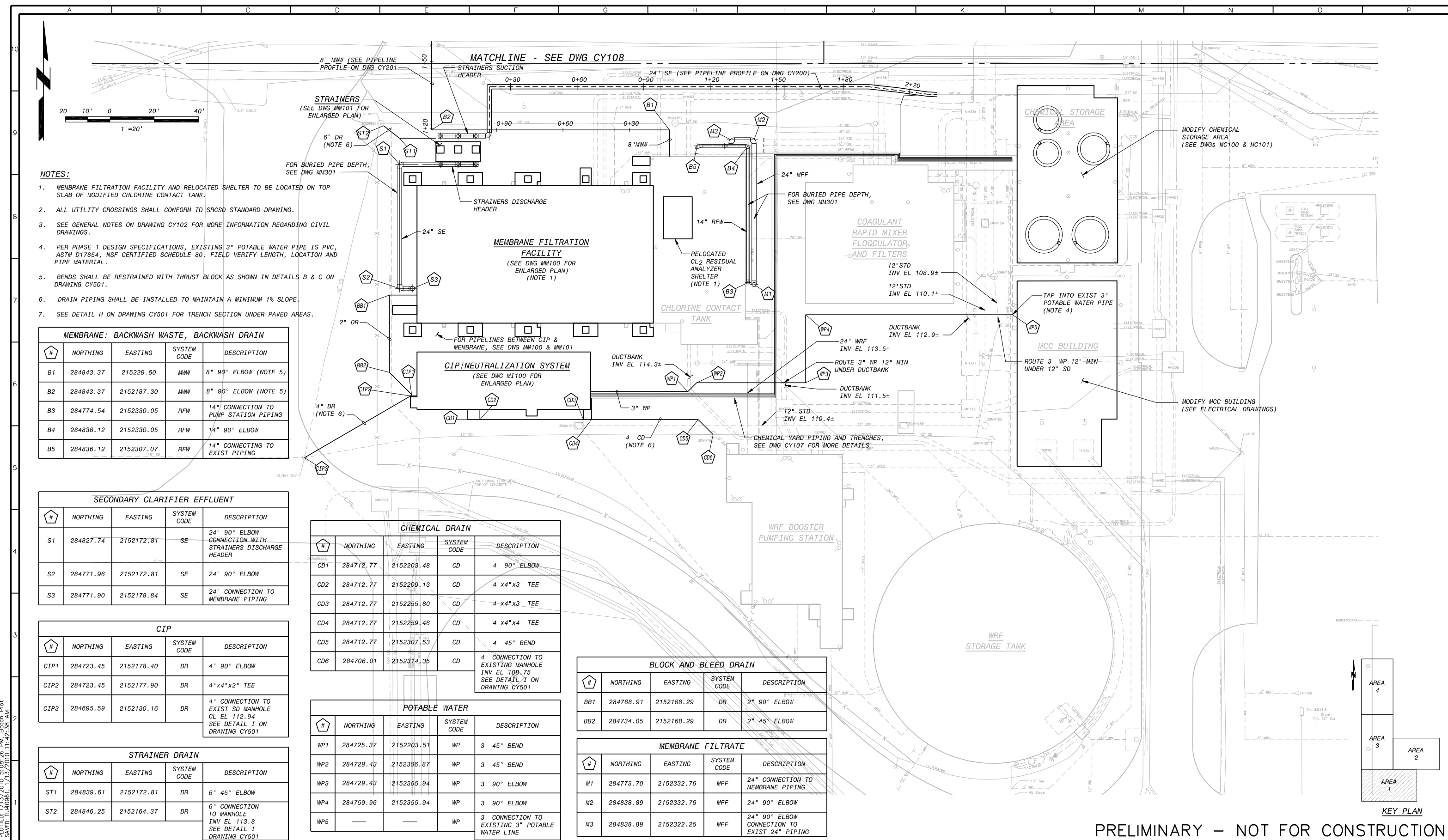
CIVIL  
GRADING AND PAVING PLAN  
AREA 3

SCALE  
1"=20'

DRAWING NUMBER  
**CY105**

SHEET NUMBER  
14 OF 236





NOTES:

- MEMBRANE FILTRATION FACILITY AND RELOCATED SHELTER TO BE LOCATED ON TOP SLAB OF MODIFIED CHLORINE CONTACT TANK.
- ALL UTILITY CROSSINGS SHALL CONFORM TO SRCSD STANDARD DRAWING.
- SEE GENERAL NOTES ON DRAWING CY102 FOR MORE INFORMATION REGARDING CIVIL DRAWINGS.
- PER PHASE 1 DESIGN SPECIFICATIONS, EXISTING 3" POTABLE WATER PIPE IS PVC, ASTM D17854, NSF CERTIFIED SCHEDULE 80. FIELD VERIFY LENGTH, LOCATION AND PIPE MATERIAL.
- BENDS SHALL BE RESTRAINED WITH THRUST BLOCK AS SHOWN IN DETAILS B & C ON DRAWING CY501.
- DRAIN PIPING SHALL BE INSTALLED TO MAINTAIN A MINIMUM 1% SLOPE.
- SEE DETAIL H ON DRAWING CY501 FOR TRENCH SECTION UNDER PAVED AREAS.

MEMBRANE: BACKWASH WASTE, BACKWASH DRAIN				
#	NORTHING	EASTING	SYSTEM CODE	DESCRIPTION
B1	284843.37	215229.60	MWW	8" 90° ELBOW (NOTE 5)
B2	284843.37	2152187.30	MWW	8" 90° ELBOW (NOTE 5)
B3	284774.54	2152330.05	RFW	14" CONNECTION TO PUMP STATION PIPING
B4	284836.12	2152330.05	RFW	14" 90° ELBOW
B5	284836.12	2152307.07	RFW	14" CONNECTING TO EXIST PIPING

SECONDARY CLARIFIER EFFLUENT				
#	NORTHING	EASTING	SYSTEM CODE	DESCRIPTION
S1	284827.74	2152172.81	SE	24" 90° ELBOW CONNECTION WITH STRAINERS DISCHARGE HEADER
S2	284771.96	2152172.81	SE	24" 90° ELBOW
S3	284771.90	2152178.84	SE	24" CONNECTION TO MEMBRANE PIPING

CIP				
#	NORTHING	EASTING	SYSTEM CODE	DESCRIPTION
CIP1	284723.45	2152178.40	DR	4" 90° ELBOW
CIP2	284723.45	2152177.90	DR	4"x4"x2" TEE
CIP3	284695.59	2152130.16	DR	4" CONNECTION TO EXIST SD MANHOLE CL EL 112.94 SEE DETAIL I ON DRAWING CY501

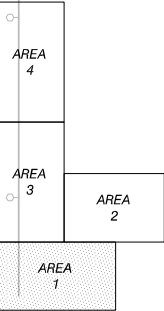
STRAINER DRAIN				
#	NORTHING	EASTING	SYSTEM CODE	DESCRIPTION
ST1	284839.61	2152172.81	DR	6" 45° ELBOW
ST2	284846.25	2152164.37	DR	6" CONNECTION TO MANHOLE INV EL 113.8 SEE DETAIL I ON DRAWING CY501

CHEMICAL DRAIN				
#	NORTHING	EASTING	SYSTEM CODE	DESCRIPTION
CD1	284712.77	2152203.48	CD	4" 90° ELBOW
CD2	284712.77	2152209.13	CD	4"x4"x3" TEE
CD3	284712.77	2152255.80	CD	4"x4"x3" TEE
CD4	284712.77	2152259.46	CD	4"x4"x4" TEE
CD5	284712.77	2152307.53	CD	4" 45° BEND
CD6	284706.01	2152314.35	CD	4" CONNECTION TO EXISTING MANHOLE INV EL 108.75 SEE DETAIL I ON DRAWING CY501

POTABLE WATER				
#	NORTHING	EASTING	SYSTEM CODE	DESCRIPTION
WP1	284725.37	2152203.51	WP	3" 45° BEND
WP2	284729.43	2152306.87	WP	3" 45° BEND
WP3	284729.43	2152355.94	WP	3" 90° ELBOW
WP4	284759.96	2152355.94	WP	3" 90° ELBOW
WP5			WP	3" CONNECTION TO EXISTING 3" POTABLE WATER LINE

BLOCK AND BLEED DRAIN				
#	NORTHING	EASTING	SYSTEM CODE	DESCRIPTION
BB1	284768.91	2152168.29	DR	2" 90° ELBOW
BB2	284734.05	2152168.29	DR	2" 45° ELBOW

MEMBRANE FILTRATE				
#	NORTHING	EASTING	SYSTEM CODE	DESCRIPTION
M1	284773.70	2152332.76	MFF	24" CONNECTION TO MEMBRANE PIPING
M2	284838.89	2152332.76	MFF	24" 90° ELBOW
M3	284838.89	2152322.25	MFF	24" 90° ELBOW CONNECTION TO EXIST 24" PIPING



KEY PLAN

PRELIMINARY – NOT FOR CONSTRUCTION

PLotted: 1/13/2010 5:08:26 PM, Bldg: Plot  
SAVED: 1/13/2010 11:42:38 AM  
FBR342202  
BDR342202



REVISIONS				
ZONE	REV.	DESCRIPTION	BY	DATE
	A	50% SUBMITTAL		09/09
	B	90% SUBMITTAL		11/09
	C	100% SUBMITTAL		01/10

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"-SCALE ACCORDINGLY)

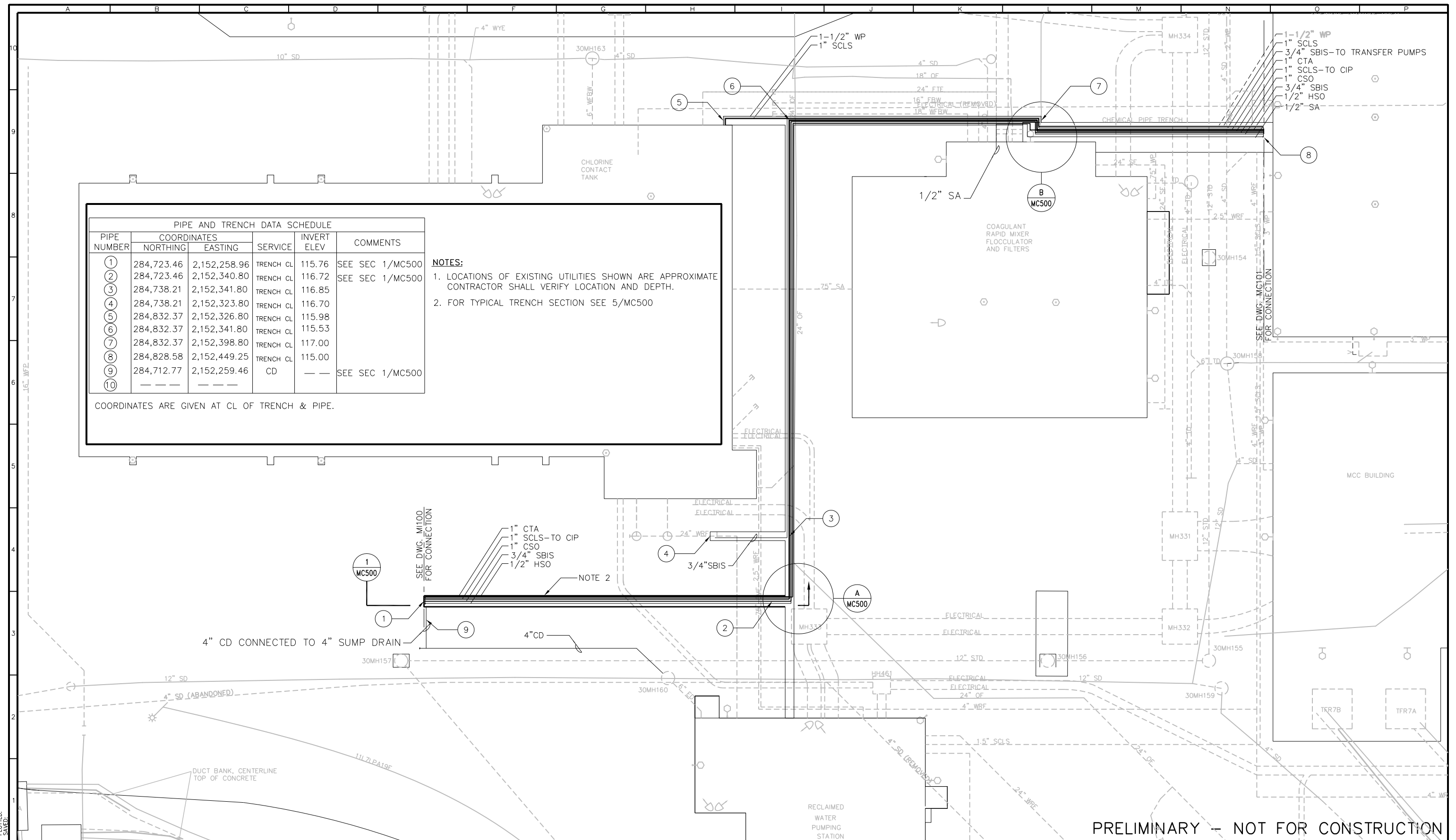
FILE \_\_\_\_\_  
DRAWN \_\_\_\_\_ GT  
DESIGNED \_\_\_\_\_ JWW  
CHECKED \_\_\_\_\_

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA  
  
SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT – PHASE II

CIVIL  
SITE PIPING PLAN  
AREA 1

SCALE  
1"=20'  
  
DRAWING NUMBER  
CY106  
  
SHEET NUMBER  
15 OF 236



PRELIMINARY - NOT FOR CONSTRUCTION

[illegible]

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2" - SCALE ACCORDINGLY)

FILE FILE NAME  
DRAWN TULLENSVANG  
DESIGNED TU  
CHECKED WY

TBD

---

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY

CIVIL

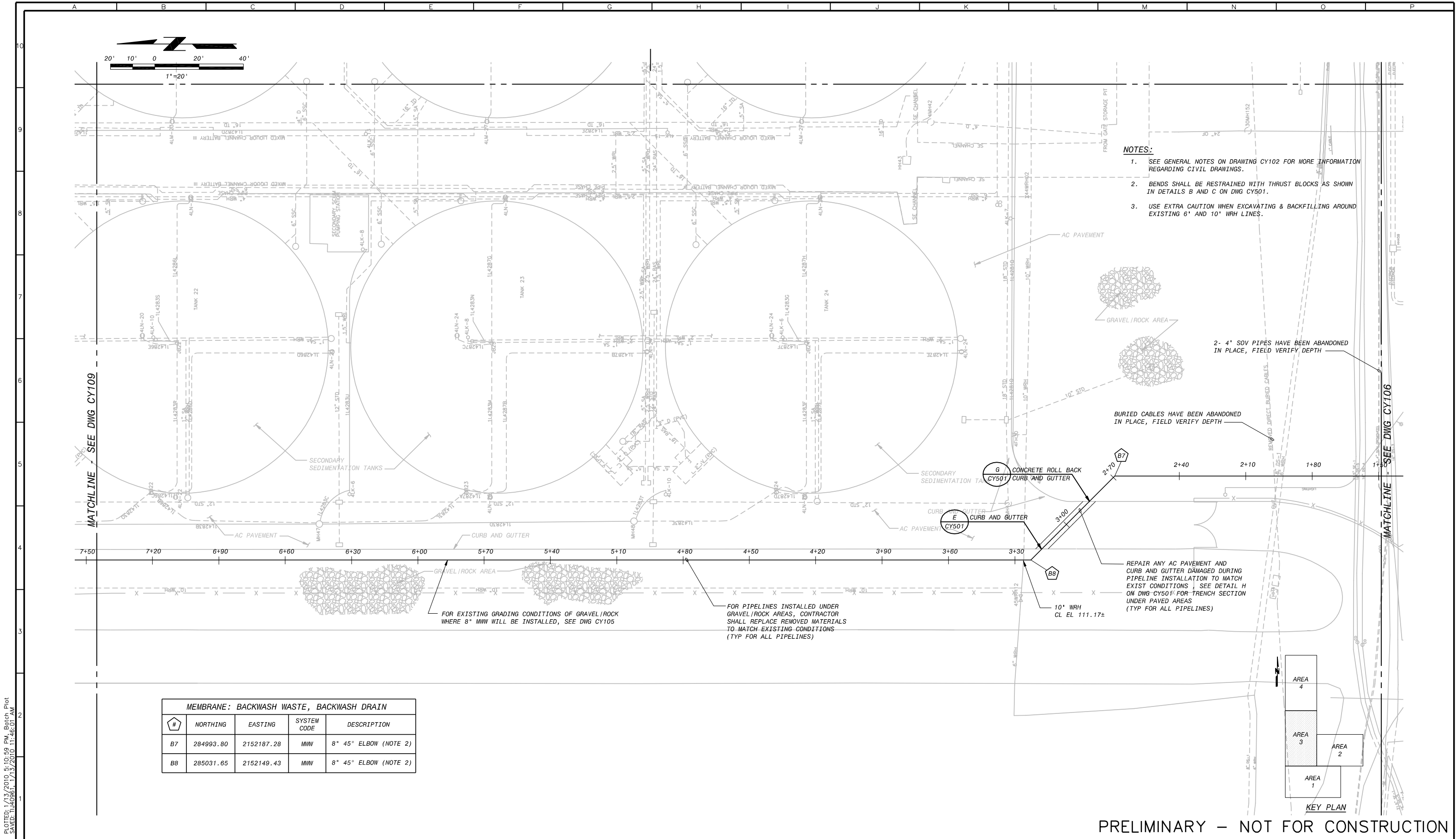
CHEMICAL YARD PIPING

SCALE  
1' = 10'

DRAWING NUMBER  
**CY107**

SHEET NUMBER  
6 OF 236

BDR3422D2  
BDR3422D2  
PLOTTED:  
SAVED:



PLOTTED: 1/13/2010 5:10:58 PM, Batch Plot  
 Saved: 1/13/2010 11:46:01 AM  
 T:\140366\1\13\2010

BDR342202  
 BDR342202

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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)
FILE _____
DRAWN GT
DESIGNED JWW
CHECKED _____

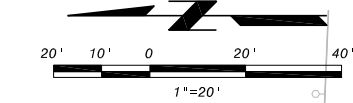
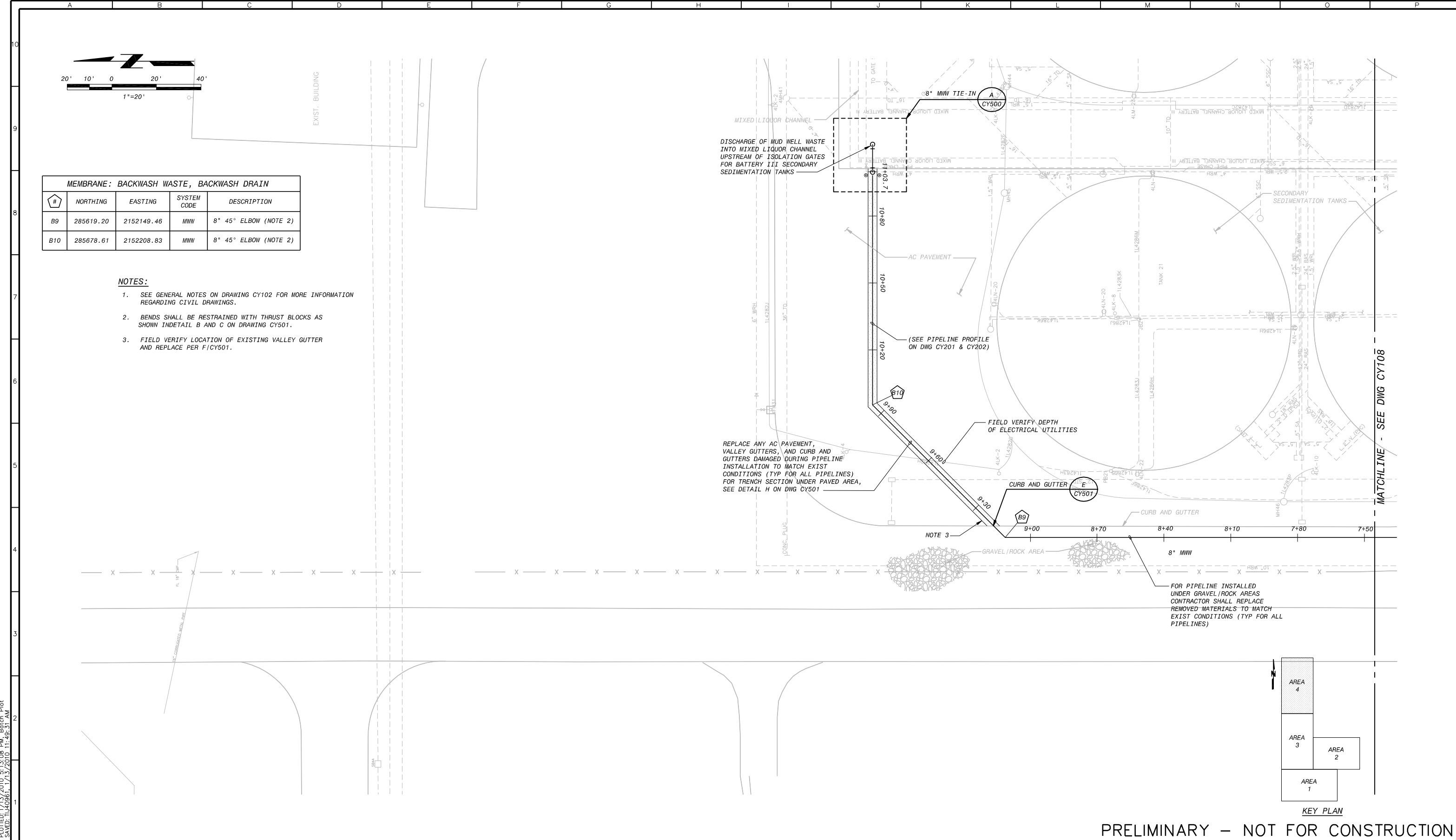
CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
 SANITATION DISTRICT  
 OF SACRAMENTO COUNTY, CALIFORNIA  
 SACRAMENTO REGIONAL  
 WASTEWATER TREATMENT PLANT  
 WATER RECLAMATION FACILITY  
 EXPANSION PROJECT – PHASE II

CIVIL  
 SITE PIPING PLAN  
 AREA 3

SCALE  
 AS NOTED  
 DRAWING NUMBER  
**CY108**  
 SHEET NUMBER  
 17 OF 236

PRELIMINARY – NOT FOR CONSTRUCTION



MEMBRANE: BACKWASH WASTE, BACKWASH DRAIN				
#	NORTHING	EASTING	SYSTEM CODE	DESCRIPTION
B9	285619.20	2152149.46	MWW	8" 45° ELBOW (NOTE 2)
B10	285678.61	2152208.83	MWW	8" 45° ELBOW (NOTE 2)

- NOTES:**
- SEE GENERAL NOTES ON DRAWING CY102 FOR MORE INFORMATION REGARDING CIVIL DRAWINGS.
  - BENDS SHALL BE RESTRAINED WITH THRUST BLOCKS AS SHOWN IN DETAIL B AND C ON DRAWING CY501.
  - FIELD VERIFY LOCATION OF EXISTING VALLEY GUTTER AND REPLACE PER F/CY501.

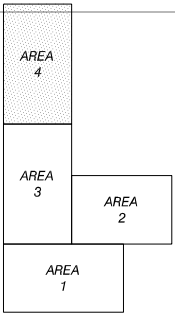
REPLACE ANY AC PAVEMENT, VALLEY GUTTERS, AND CURB AND GUTTERS DAMAGED DURING PIPELINE INSTALLATION TO MATCH EXIST CONDITIONS (TYP FOR ALL PIPELINES) FOR TRENCH SECTION UNDER PAVED AREA, SEE DETAIL H ON DWG CY501

FIELD VERIFY DEPTH OF ELECTRICAL UTILITIES

CURB AND GUTTER

CURB AND GUTTER

FOR PIPELINE INSTALLED UNDER GRAVEL/ROCK AREAS CONTRACTOR SHALL REPLACE REMOVED MATERIALS TO MATCH EXIST CONDITIONS (TYP FOR ALL PIPELINES)



KEY PLAN

PRELIMINARY – NOT FOR CONSTRUCTION

Building a world of difference

REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)

FILE \_\_\_\_\_

DRAWN GT

DESIGNED JWW

CHECKED \_\_\_\_\_

CONTRACT NUMBER \_\_\_\_\_

SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT WATER RECLAMATION FACILITY EXPANSION PROJECT – PHASE II

CIVIL

SITE PIPING PLAN

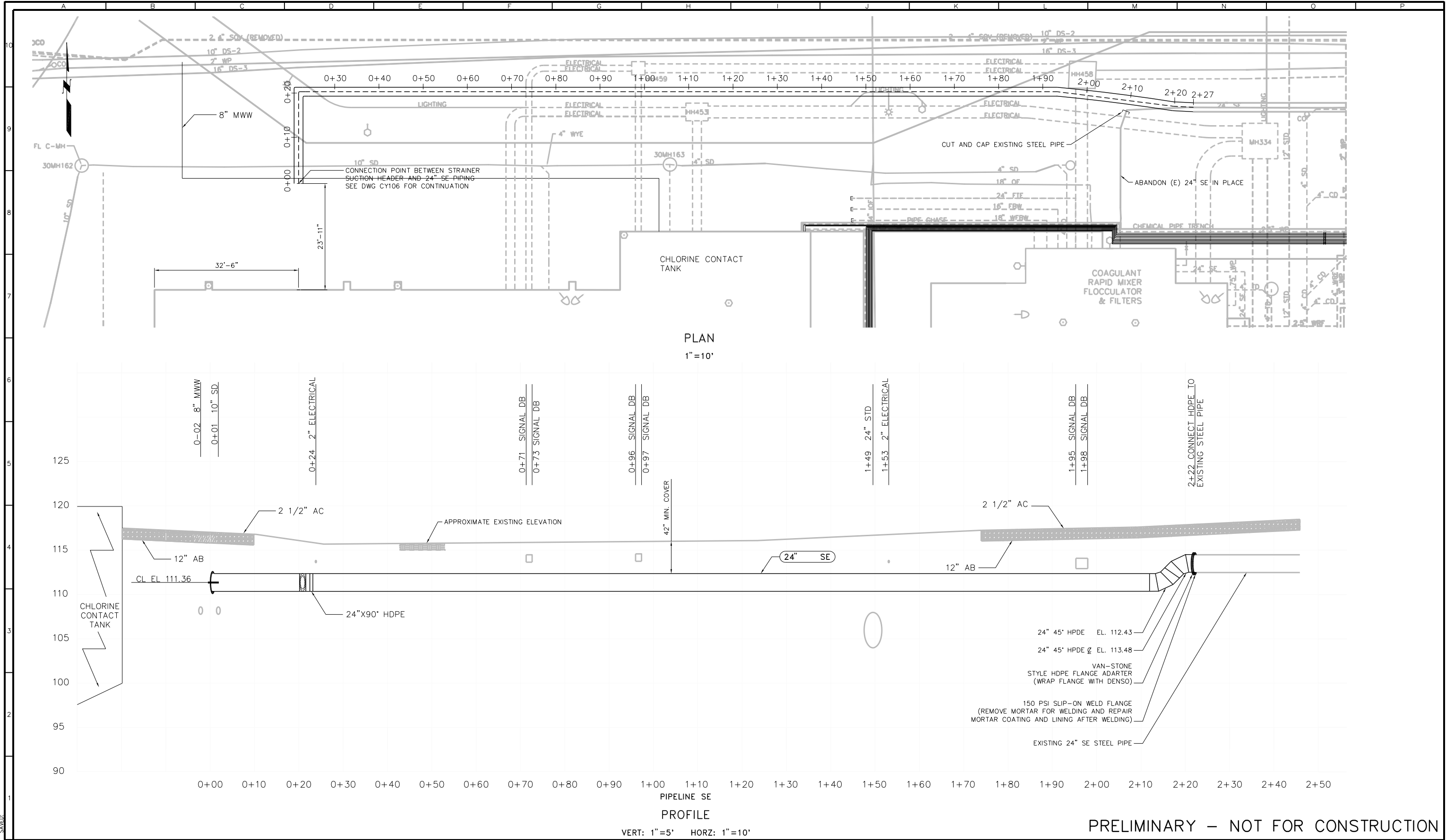
AREA 4

SCALE AS NOTED


DRAWING NUMBER **CY109**

SHEET NUMBER 18 OF 236


PLOTTED: 1/13/2010 5:13:08 PM Batch Plot  
SAVED: T:\403661\1\13\2010 11:49:31 AM  
FDR342202  
FDR342202





PRELIMINARY – NOT FOR CONSTRUCTION



**BLACK & VEATCH**  
Building a world of difference





REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"-SCALE ACCORDINGLY)

FILE FILE NAME  
DRAWN TULLENSVANG  
DESIGNED TU  
CHECKED WY

TBD  
CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY

CIVIL

PIPELINE SE  
PLAN AND PROFILE

SCALE  
HORIZ: 1"=10'  
VERT: 1"=5'

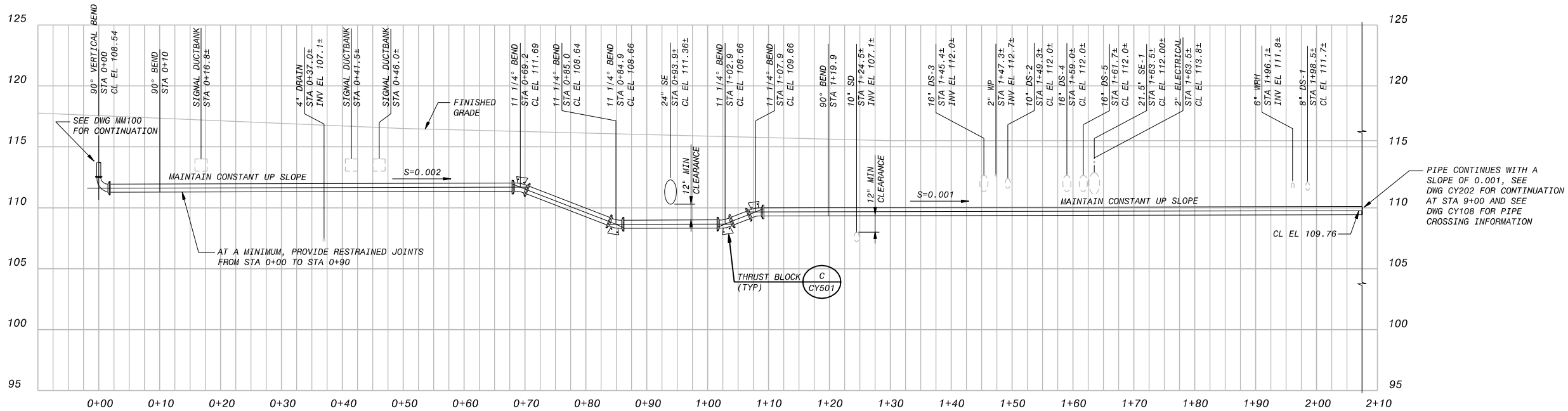
DRAWING NUMBER  
**CY200**

SHEET NUMBER  
19 OF 236

FB0342202  
S0542202  
PLOTTED:   
DATE:

PLOTTED: 1/13/2010 5:13:38 PM Batch Plot  
 Saved: 1/13/2010 2:50:16 PM  
 T:\40361\1\3\2010

BDR342202  
 BDR342202



8" MWW YARD PIPING PROFILE

1"=5' VERT  
 1"=10' HORIZ

NOTES

- SEE DRAWINGS CY106, CY108 AND CY109 FOR PLAN VIEW OF PIPELINE.
- SEE GENERAL NOTES ON DRAWING CY102 FOR MORE INFORMATION REGARDING CIVIL DRAWINGS.

PRELIMINARY – NOT FOR CONSTRUCTION



REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)	
FILE	
DRAWN	JLK
DESIGNED	JWW
CHECKED	

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
 SANITATION DISTRICT  
 OF SACRAMENTO COUNTY, CALIFORNIA  
 SACRAMENTO REGIONAL  
 WASTEWATER TREATMENT PLANT  
 WATER RECLAMATION FACILITY  
 EXPANSION PROJECT- PHASE II

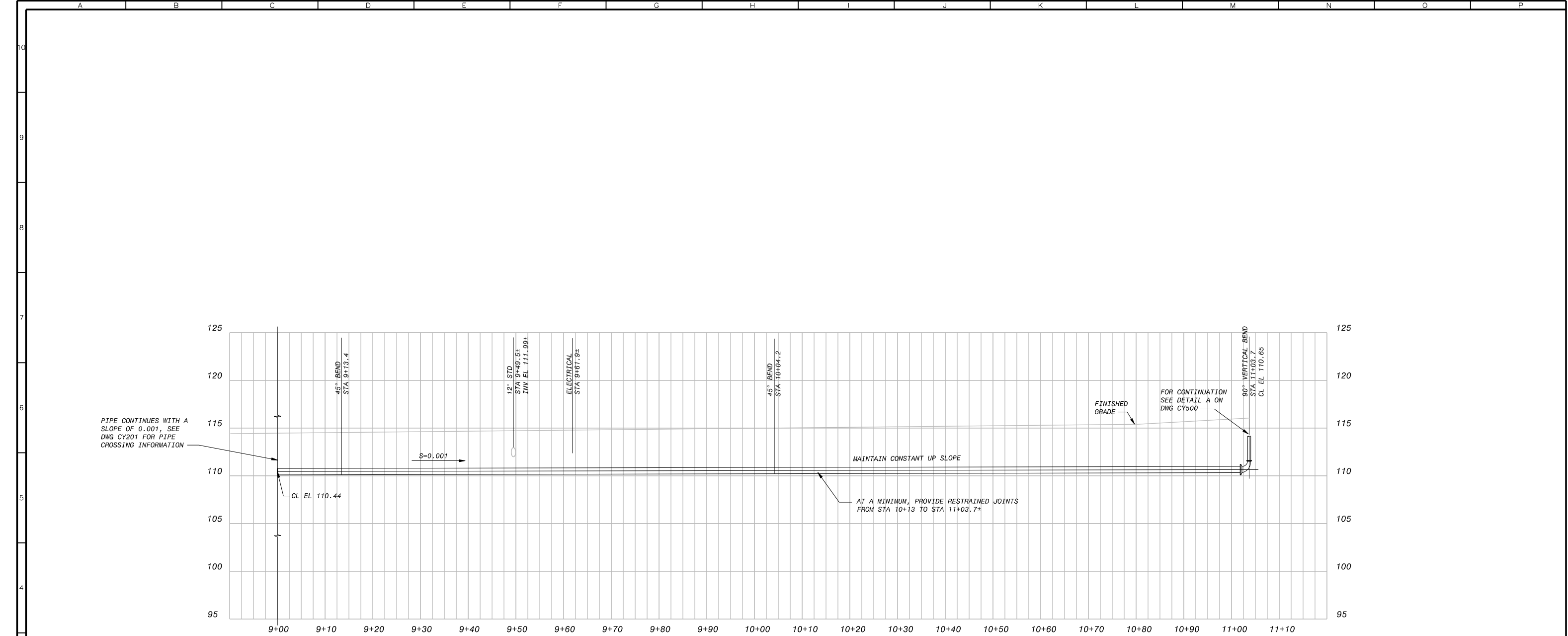
CIVIL  
 MWW YARD PIPING PROFILE  
 SHEET 1 OF 2

SCALE  
 AS SHOWN

DRAWING NUMBER

CY201


SHEET NUMBER  
 20 OF 236




8" MWW YARD PIPING PROFILE  
1"=5' VERT  
1"=10' HORIZ


- NOTES
1. NOTES ON DRAWING CY201 ALSO APPLY TO THIS DRAWING.

PRELIMINARY – NOT FOR CONSTRUCTION




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REGISTERED PROFESSIONAL ENGINEER  
PARVATI SANJAY REDDY  
No. C 63910  
Exp. 9/30/10  
CIVIL  
STATE OF CALIFORNIA



REGISTERED PROFESSIONAL ENGINEER  
DANIEL C. LOPEZ  
No. C 054330  
Exp. 12/31/11  
CIVIL  
STATE OF CALIFORNIA

REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"-SCALE ACCORDINGLY)

FILE \_\_\_\_\_  
DRAWN JLK  
DESIGNED JWW  
CHECKED \_\_\_\_\_

CONTRACT NUMBER \_\_\_\_\_

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

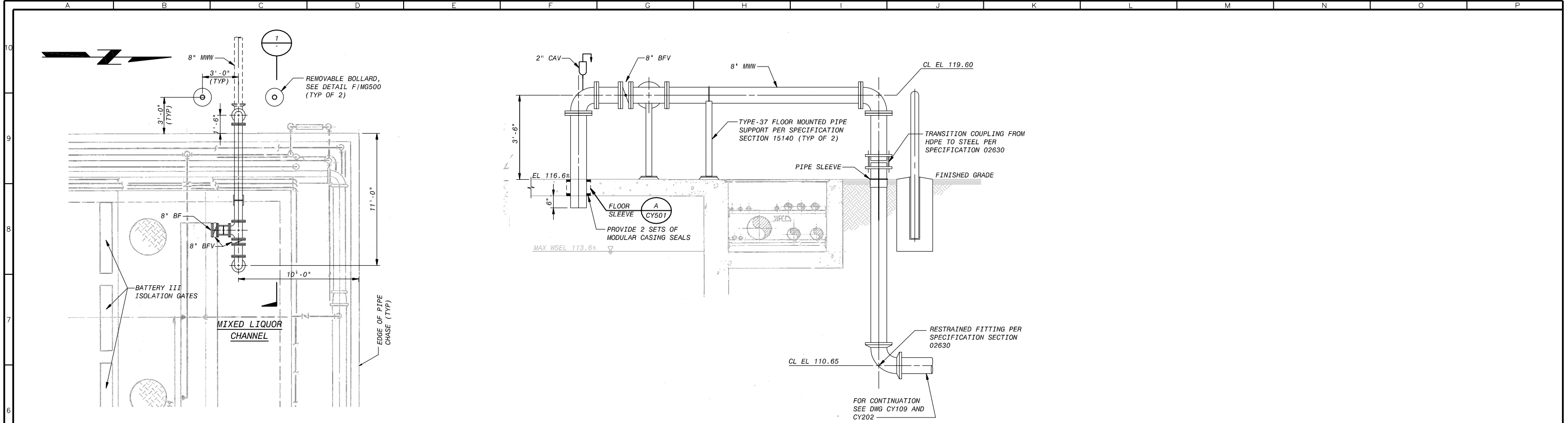
SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT – PHASE II

CIVIL  
YARD PIPING PROFILE  
SHEET 2 OF 2

SCALE  
AS SHOWN  
DRAWING NUMBER  
CY202  
SHEET NUMBER  
21 OF 236

PLOTTED: 1/13/2010, 5:14:03 PM, Batch Plot  
SAVED: T:\403661\_12/31/2009 11:05:40 AM

EDR342202  
EDR342202



8" MW TIE-IN  
1/4"=1'-0"

SECTION 1  
1/2"=1'-0"

PRELIMINARY – NOT FOR CONSTRUCTION

BLACK & VEATCH  
Building a world of difference

SRCS D

REVISIONS				
ZONE	REV.	DESCRIPTION	BY	DATE
	A	50% SUBMITTAL		09/09
	B	90% SUBMITTAL		11/09
	C	100% SUBMITTAL		01/10

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)

FILE \_\_\_\_\_

DRAWN \_\_\_\_\_ GT

DESIGNED \_\_\_\_\_ JWW

CHECKED \_\_\_\_\_

SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT WATER RECLAMATION FACILITY EXPANSION PROJECT – PHASE II

CIVIL

YARD STRUCTURES PLAN AND SECTION

SCALE AS SHOWN

DRAWING NUMBER CY500

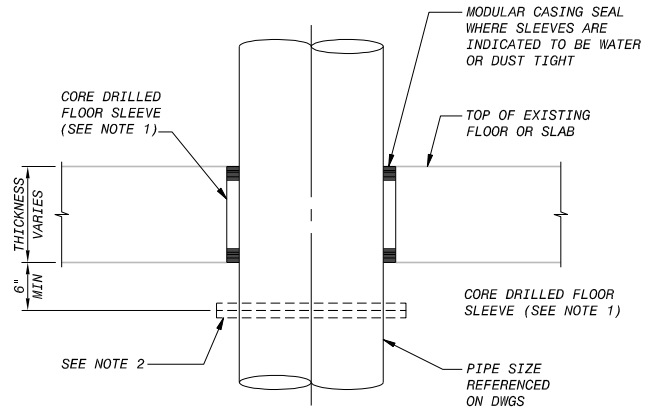
SHEET NUMBER 22 OF 236

CONTRACT NUMBER

PLotted: 1/13/2010 5:14:38 PM, Batch Plot  
SAVED: T:\40961\1/13/2010 2:50:53 PM

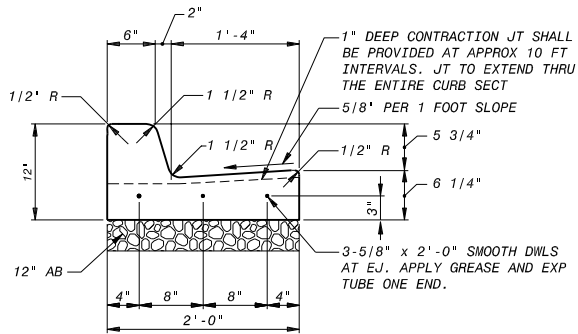
EBR042202  
EBR042202





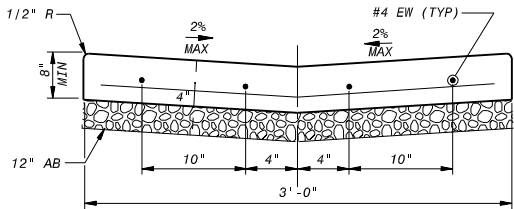
- NOTES:**
1. CORE DRILL SMOOTH FLOOR OPENING AND COORDINATE DIAMETER WITH MODULAR CASING SEAL MANUFACTURER, MAXIMUM CORE DIAMETER 12". FOR PIPES 8" OR SMALLER.
  2. TO MINIMIZE SLEEVE SIZE PROVIDE SCREW-ON FLANGE, GROOVED COUPLING, OR MECHANICAL COUPLING WITH ANCHOR STUDS ON ONE SIDE OF OPENING. NOT NEEDED FOR 8" MIN DISCHARGE FLOOR SLEEVE.

**CORE DRILLED FLOOR SLEEVE** (A)  
NO SCALE



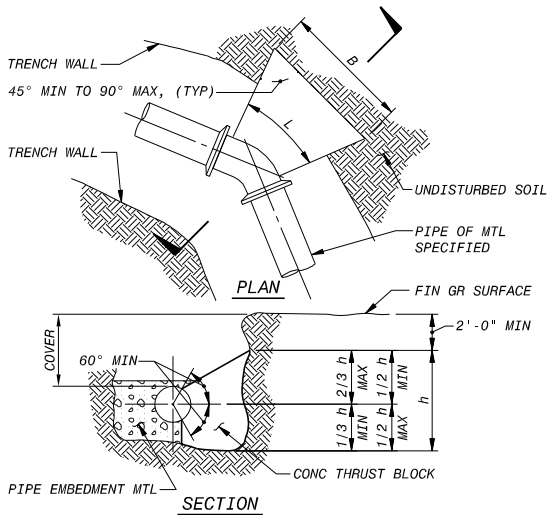
- NOTE:**
1. DETAIL PROVIDED FOR BIDDING PURPOSES. CONTRACTOR TO REPLACE EXISTING CURB AND GUTTER TO MATCH EXISTING CONDITIONS.

**CURB AND GUTTER** (E)  
NO SCALE



- NOTE:**
1. DETAIL PROVIDED FOR BIDDING PURPOSES. CONTRACTOR TO REPLACE EXISTING VALLEY GUTTER TO MATCH EXISTING CONDITIONS.

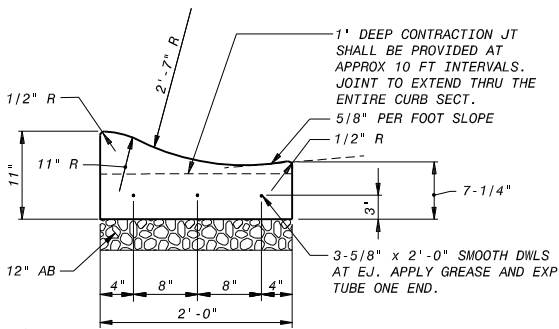
**VALLEY GUTTER DETAIL** (F)  
NO SCALE



- NOTES:**
1. AREA OF BLOCK,  $A = B \times h$ . BLOCK AREAS ARE SHOWN ON GENERAL LAYOUT OR TABLE.
  2.  $B = h = \sqrt{A}$ , EXCEPT WHERE TOP OF BLOCK IS WITHIN 2 FEET FROM GROUND SURFACE, THEN  $B = A/h$ .
  3. MINIMUM BLOCK DIMENSION ( $B$  &  $h$ ) SHALL BE AT LEAST OD OF PIPE OR 1 FOOT FOR PIPE OD 12" OR LESS.
  4. THE BOTTOM OF THE BLOCK SHALL EXTEND AT LEAST TO THE BOTTOM OF THE TRENCH IN ALL CASES.
  5.  $L$ =FITTING LENGTH MINUS CLEARANCE FOR BELLS.
  6. DETAIL IS SHOWN FOR CAST IRON PIPE; DETAIL IS SIMILAR FOR OTHER TYPES OF PIPE.

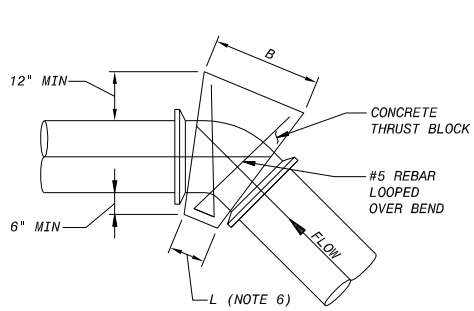
HORIZONTAL THRUST GUIDE						
PIPE CHARACTERISTICS			THRUST BLOCK AREAS			
SIZE (IN)	MATERIAL	TEST PRESSURE (PSI)	90° FT²	45° FT²	22.5° FT²	11.25° FT²
8	PVC W/ DIP FITTING	135	7	4	2	2

**CONCRETE THRUST BLOCKING** (B)  
NO SCALE



- NOTE:**
1. DETAIL PROVIDED FOR BIDDING PURPOSES. CONTRACTOR TO REPLACE EXISTING ROLL BACK CURB AND GUTTER TO MATCH EXISTING CONDITIONS.

**CONCRETE ROLL BACK  
CURB AND GUTTER** (G)  
NO SCALE

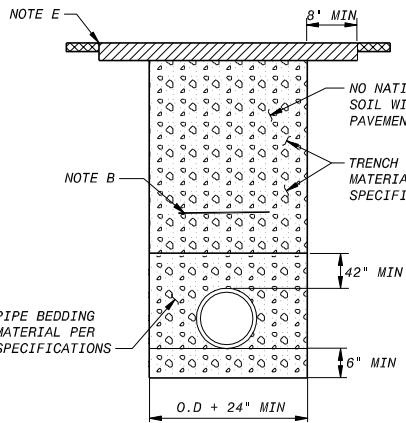


**UPWARD BEND**

- NOTES:**
1. APPLY BOND BREAKER TAPE AROUND FITTING.
  2. CONCRETE IS NOT TO BE PLACED OVER PIPE JOINTS.
  3. WHERE POSSIBLE, INSTALL FULL LENGTH (20'-0") PIPE SECTIONS ON EITHER SIDE OF UPWARD BEND.
  4. FOR DOWNWARD BENDS, DIMENSIONS FOR BLOCK AREA SHALL CONFORM TO NOTE 2 IN DETAIL B OF THIS DRAWING.
  5.  $B$  = LENGTH  
 $W$  = WIDTH
  6.  $L$  = INSIDE FITTING LENGTH MINUS CLEARANCE FOR BELLS.

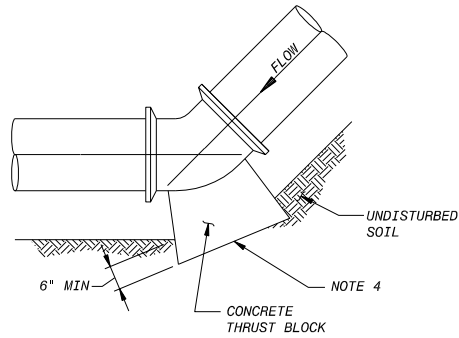
VERTICAL THRUST GUIDE				
PIPE CHARACTERISTICS			DOWNWARD BEND AREAS	UPWARD BEND DIMENSIONS
SIZE (IN)	MATERIAL	TEST PRESSURE (PSI)	11.25° F²	11.25° B W
8	PVC W/ DIP FITTING	135	2	2'-6" 2'-9"

**VERTICAL THRUST BLOCK** (C)  
NO SCALE

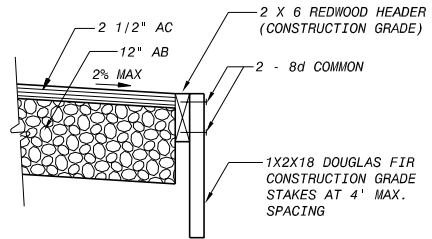


- NOTES:**
- A. MATCH EXISTING A.C. THICKNESS, 2 1/2" MIN., 4" MAX.
  - B. CONDUCTIVE TRACER AS REQUIRED PER SPECIFICATIONS.
  - C. T-CUT REQUIRED FOR ALL PAVEMENTS AND SHALL BE 1-1/2" DEEP BY GRINDING AND PAVING, MIN. 8" WIDE. IF CENTER OF TRENCH IS WITHIN 20" OF LIP OF GUTTER, GRIND AND. PAVE TO LIP OF GUTTER.
  - D. STREET SECTION SHALL HAVE A MINIMUM 12" OF AB OR MATCH EXIST.
  - E. COAT ALL EXISTING VERTICAL FACES WITH ASPHALTIC EMULSION (TACK) PRIOR TO PAVING.
  - F. SEE SPECIFICATIONS FOR COMPACTION REQUIREMENTS.

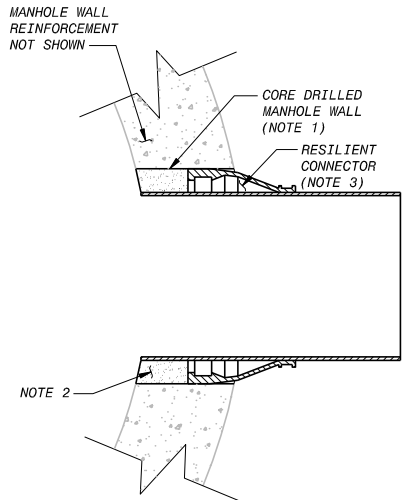
**TRENCH SECTION IN IMPROVED AREAS** (H)  
NO SCALE



**DOWNWARD BEND**



**EDGE OF PAVEMENT** (D)  
NO SCALE



- NOTES:**
1. CORE DRILL SMOOTH OPENING THROUGH MANHOLE WALL AND COORDINATE DIAMETER W/ RESILIENT CONNECTOR MANUFACTURER.
  2. ANNULAR SPACES BETWEEN PIPE AND MANHOLE TO BE SEALED W/ MASTIC FILL OR GROUT APPROVED BY ENGINEER.
  3. INSTALL RESILIENT CONNECTOR IN ACCORDANCE W/ MANUFACTURER'S RECOMMENDATIONS.

**CORE DRILLED MANHOLE CONNECTION** (I)  
NO SCALE

PRELIMINARY – NOT FOR CONSTRUCTION

PLOTTED: 1/13/2010 5:15:05 PM Batch Plot  
SAVED: T:\403661\_1\1/13/2010 2:51:32 PM

BDP342202  
BDP342202

**BLACK & VEATCH**  
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REVISIONS				
ZONE	REV.	DESCRIPTION	BY	DATE
	A	50% SUBMITTAL		09/09
	B	90% SUBMITTAL		11/09
	C	100% SUBMITTAL		01/10

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)	
FILE	
DRAWN	GT
DESIGNED	JWW
CHECKED	

CONTRACT NUMBER

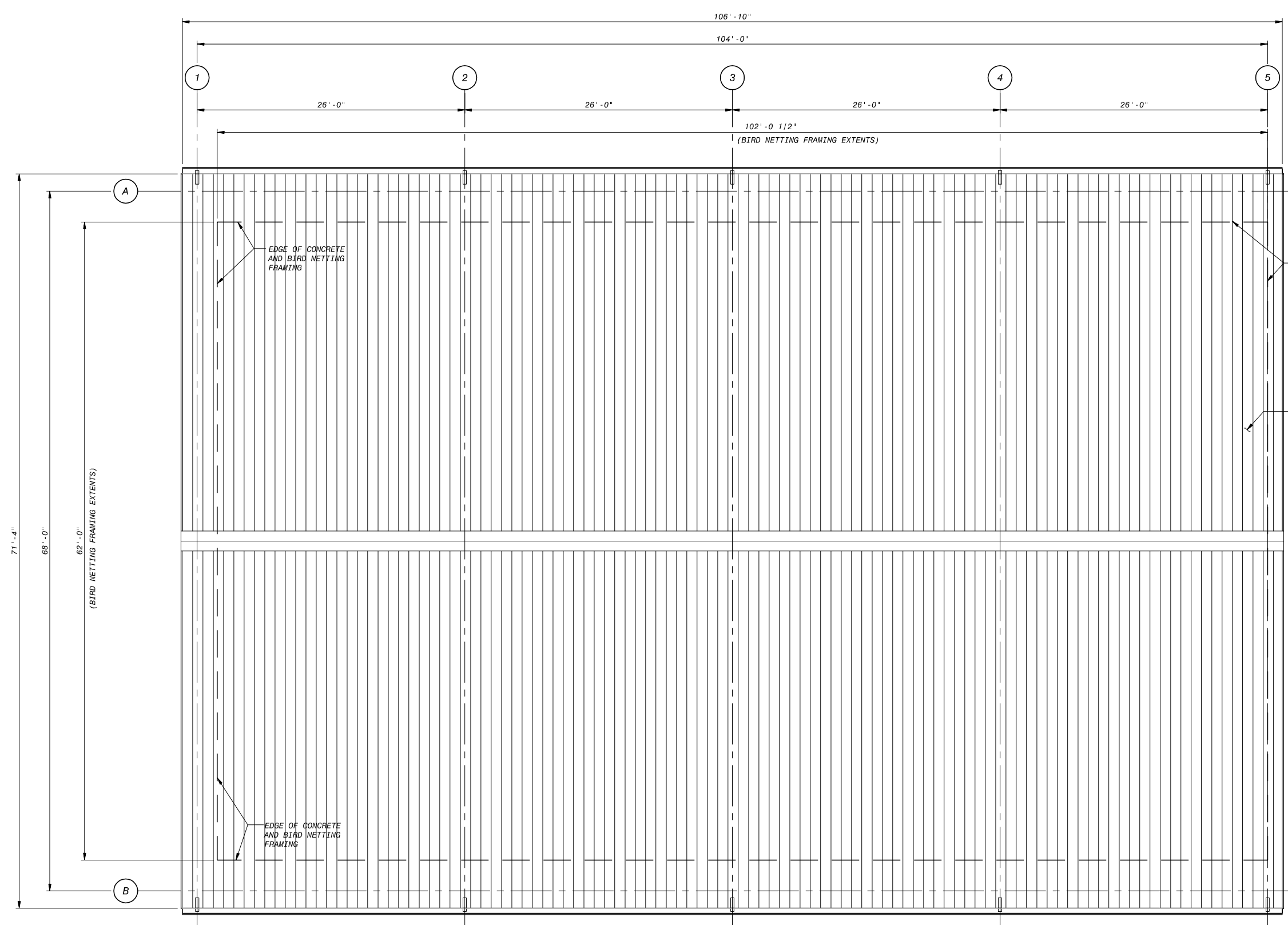
SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA  
  
SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT – PHASE II

CIVIL  
TYPICAL DETAILS

SCALE  
AS SHOWN  
  
DRAWING NUMBER  
**CY501**  
  
SHEET NUMBER  
23 OF 236

PLOTTED: 1/13/2010, 7:18:58 PM, Batch Plot  
SAVED: RIS44867, 1/6/2010, 2:58:37 PM

BRD342202  
BRD342202



ROOF PLAN  
3/16" = 1'-0"

PRELIMINARY – NOT FOR CONSTRUCTION

**BLACK & VEATCH**  
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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)	
FILE	
DRAWN	PDR
DESIGNED	PDR
CHECKED	

CONTRACT NUMBER

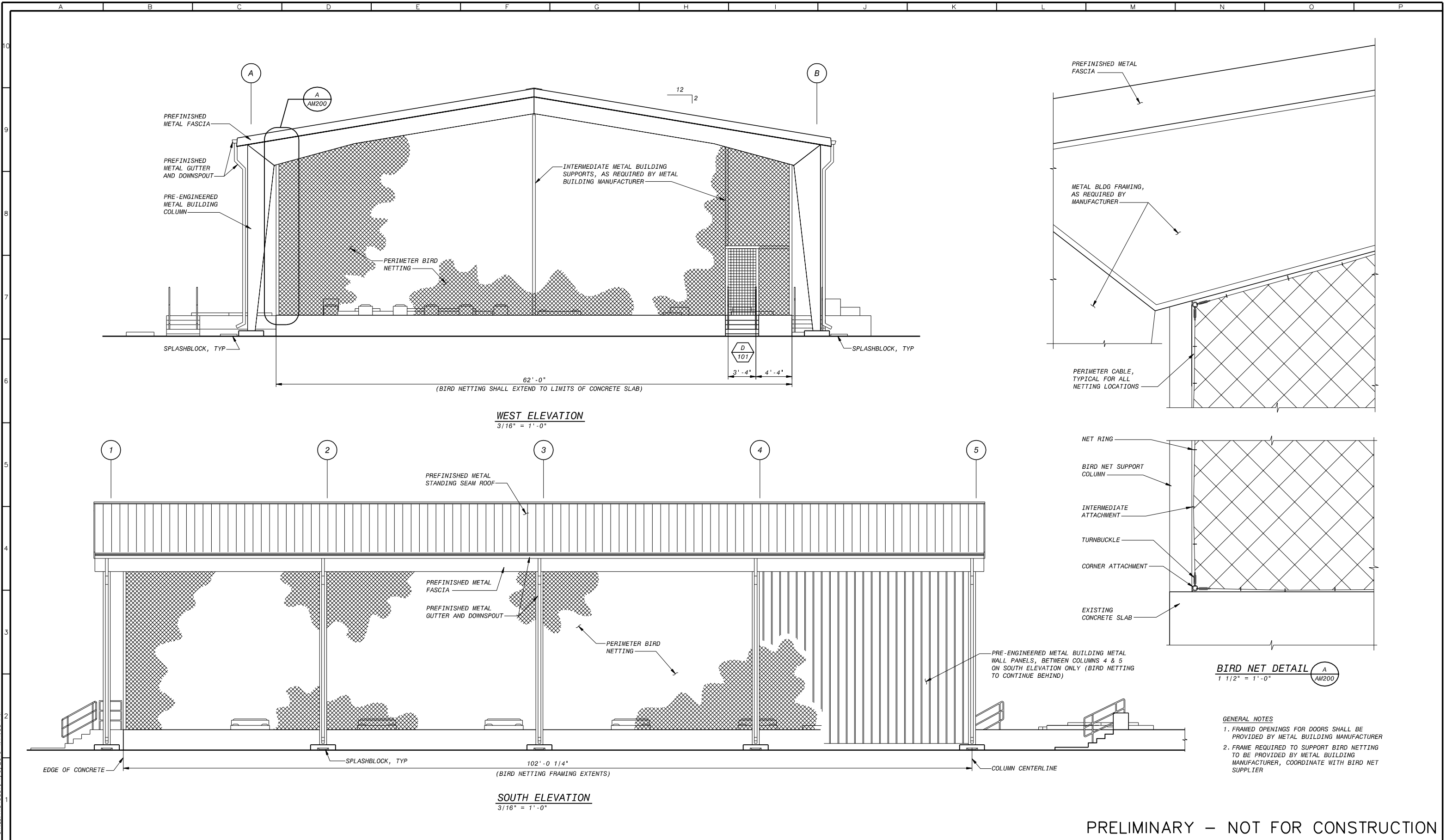
SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA  
  
SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT – PHASE II

ARCHITECTURAL  
MEMBRANE FILTRATION FACILITY  
PLAN




SCALE  
3/16" = 1'-0"  
DRAWING NUMBER  
**AM100**  
SHEET NUMBER  
24 OF 236

PLOTTED: 1/13/2010 7:19:35 PM Batch Plot  
 Saved: RIS44857 1/6/2010 4:11:35 PM

BDR342202  
 BDR342202

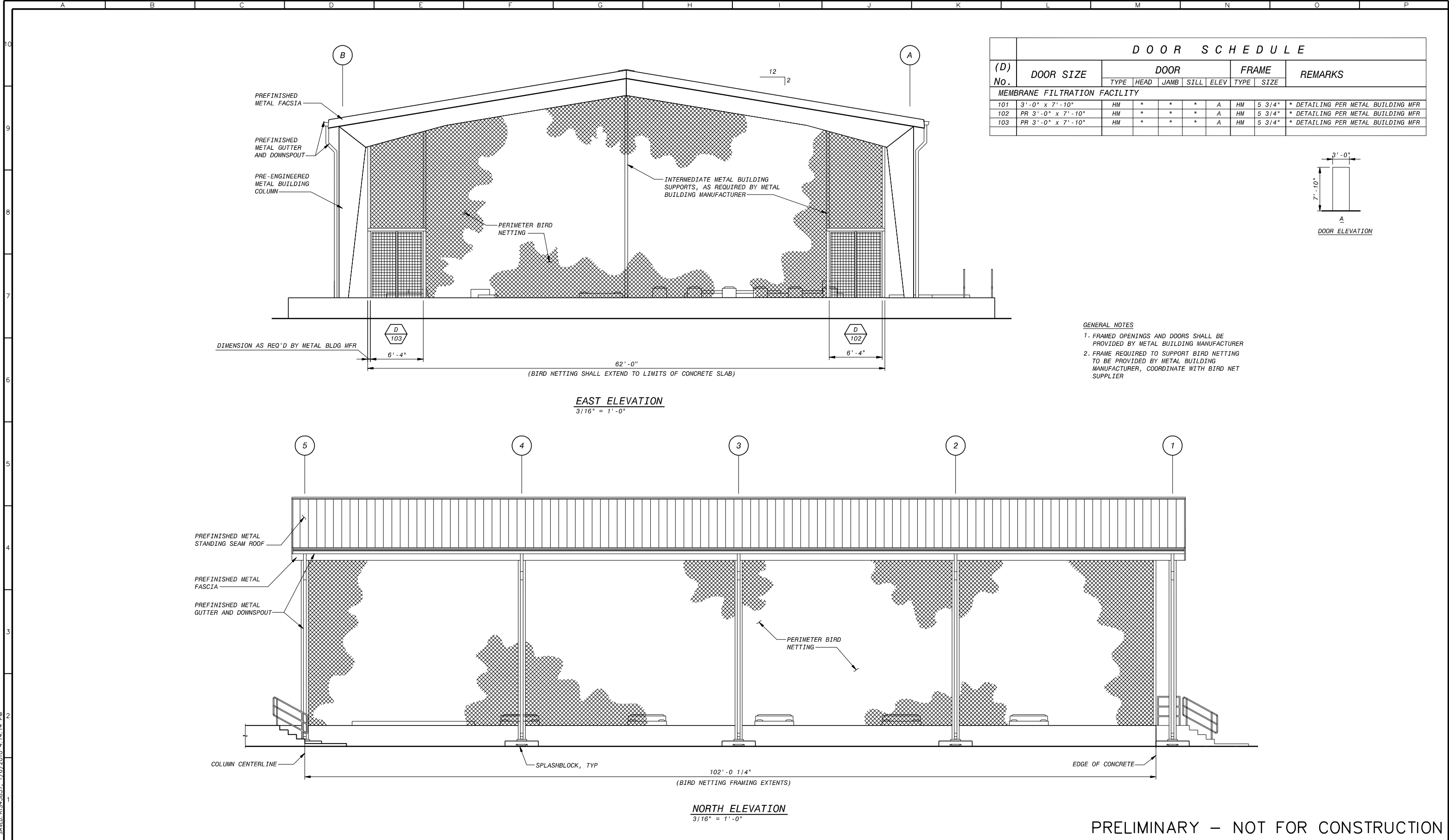


PRELIMINARY – NOT FOR CONSTRUCTION

 <div>BLACK &amp; VEATCH Building a world of difference.</div>		<table><tr><th colspan="6">REVISIONS</th></tr><tr><th>ZONE</th><th>REV.</th><th>DESCRIPTION</th><th>BY</th><th>DATE</th><th>APP.</th></tr><tr><td></td><td>A</td><td>50% SUBMITTAL</td><td></td><td>09/09</td><td></td></tr><tr><td></td><td>B</td><td>90% SUBMITTAL</td><td></td><td>11/09</td><td></td></tr><tr><td></td><td>C</td><td>100% SUBMITTAL</td><td></td><td>01/10</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>	REVISIONS						ZONE	REV.	DESCRIPTION	BY	DATE	APP.		A	50% SUBMITTAL		09/09			B	90% SUBMITTAL		11/09			C	100% SUBMITTAL		01/10																				<div>LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)</div> <div>FILE _____ DRAWN _____ PDR DESIGNED _____ PDR CHECKED _____</div> <div>CONTRACT NUMBER _____</div>	<div>SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT OF SACRAMENTO COUNTY, CALIFORNIA</div> <div>SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT WATER RECLAMATION FACILITY EXPANSION PROJECT – PHASE II</div>	<div>ARCHITECTURAL</div> <div>MEMBRANE FILTRATION FACILITY SOUTH AND WEST ELEVATIONS</div>	<div>SCALE 3/16" = 1'-0"</div> <div>DRAWING NUMBER AM200</div> <div>SHEET NUMBER 25 OF 236</div>
REVISIONS																																																						
ZONE	REV.	DESCRIPTION	BY	DATE	APP.																																																	
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	B	90% SUBMITTAL		11/09																																																		
	C	100% SUBMITTAL		01/10																																																		
																																																						

PLOTTED: 1/13/2010, 7:20:13 PM, Batch Plot  
 Saved: RIS43857, 1/6/2010 4:14:14 PM

BDR342202  
 BDR342202



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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

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FILE _____
DRAWN PDR _____
DESIGNED PDR _____
CHECKED _____

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT – PHASE II

ARCHITECTURAL

MEMBRANE FILTRATION FACILITY  
NORTH AND EAST ELEVATIONS

SCALE  
3/16" = 1'-0"

DRAWING NUMBER  
**AM201**

SHEET NUMBER  
26 OF 236

PLOTTER: 1/13/2010 5:14:14 PM, B0143, Plot  
 Saved: 11/09/2011 17:13:20, 2:55:27 PM  
 F0034202  
 B0034202

GENERAL

1. THE APPLICABLE BUILDING CODE IS THE 2007 CALIFORNIA BUILDING CODE (REFERENCED AS CBC HEREAFTER) .
2. STRUCTURES ARE DESIGNED FOR OPERATIONAL (OCCUPANCY) LOADS ON THE COMPLETED STRUCTURES. DURING CONSTRUCTION, THE STRUCTURES SHALL BE PROTECTED BY BRACING, BALANCING AND SHORING WHEREEVER CONSTRUCTION LOAD MAY OCCUR.
3. FOR LOCATIONS AND DIMENSIONS OF SLEEVES, CURB, OPENINGS AND DEPRESSIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS, SEE ARCHITECTURAL, CIVIL/MECHANICAL, YARDWORK, PLUMBING, HVAC AND ELECTRICAL DRAWINGS. CONTRACTOR SHALL VERIFY AND COORDINATE REQUIREMENT FOR LOCATION OF ABOVE ITEMS WHETHER SHOWN ON THE STRUCTURAL DRAWINGS OR NOT.
4. ALL STRUCTURAL RELATED SHOP DRAWINGS SHALL BE SUBMITTED, REVIEWED & ACCEPTED BY THE ENGINEER PRIOR TO ERECTION/CONSTRUCTION.

CAST-IN-PLACE CONCRETE

1. A MINIMUM 28 DAY COMPRESSIVE STRENGTH (f'c) of 4,000 PSI WAS UTILIZED IN THE DESIGN OF STRUCTURAL REINFORCED CONCRETE.
2. CEMENT SHALL BE ASTM C150, TYPE II, LOW ALKALI.
3. ALL CONCRETE CONSTRUCTION SHALL CONFORM TO THE OCCA AND THE ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" INCLUDING BAR BENDS AND HOOKS, UNLESS OTHERWISE SHOWN ON DRAWINGS.
4. THE LOCATION OF CONSTRUCTION JOINTS AND OTHER TYPES OF JOINTS, OTHER THAN SPECIFIED OR SHOWN ON THE PLANS, SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACING CONCRETE. CONSTRUCTION JOINTS SHALL BE LOCATED AS INDICATED ON THE DRAWINGS AND IN ACCORDANCE WITH PROJECT SPECIFICATION SECTION 03250-COBCRETE JOINTS AND ACCESSORIES, ARTICLE 3-1. CONSTRUCTION JOINT SPACING IN WALLS AND SLABS SHALL NOT EXCEED 60 FEET, WITH JOINTS IN WALLS LOCATED NOT MORE THAN 40 FEET FROM NEAREST CORNER PER DETAILS ON DRAWING S6500.
5. ALL EXPOSED EDGES AND CORNERS, UNLESS NOTED OTHERWISE, SHALL BE CHAMFERED 3/4" EXCEPT THE TOP EDGE OF WALLS AND SLABS WHICH ARE TO BE TOOLED.
6. ALL EXISTING CONSTRUCTION JOINTS SHALL BE ROUGHENED TO 1/4" AMPLITUDE MINIMUM.

REINFORCING STEEL

1. ALL REINFORCING BAR SHALL BE GRADE 60, DEFORMED, ASTM A615.
2. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 OR A497.
3. DIMENSIONS TO REINFORCING BARS ARE TO BAR CENTERLINES, UNLESS NOTED OTHERWISE. BAR COVER IS CLEAR DISTANCE BETWEEN BAR AND THE CONCRETE SURFACE. BAR COVERS AS SHOWN ON THE "STANDARD CONCRETE REINFORCING DETAILS" SHEET SHALL BE PROVIDED UNLESS NOTED OTHERWISE.
4. SPLICING OF REINFORCEMENT FOR WALLS, FOOTINGS AND SLABS SHALL BE AS SHOWN ON THE "STANDARD CONCRETE REINFORCING DETAILS" SHEET, UNLESS NOTED OTHERWISE. WHEN BARS OF DIFFERENT SIZE LAP TO EACH OTHER, SPLICE LENGTH OF THE LARGER BAR SHALL BE USED.
5. UNLESS INDICATED OTHERWISE, ALL DOWELS SHALL HAVE THE SAME SIZE AND SPACING AS THOSE OF THE REINFORCING STEEL TO WHICH THEY ARE SPLICED AND SHALL HAVE A MINIMUM LAP PER NOTE NO. 4 ABOVE, UNLESS NOTED OTHERWISE.
6. NO WELDING OF REINFORCING BARS SHALL BE PERMITTED, UNLESS APPROVAL IS OBTAINED FROM THE ENGINEER PRIOR TO CONSTRUCTION.

STAINLESS STEEL

1. STAINLESS STEEL BOLTS SHALL CONFORM TO ASTM F593, ALLOY GROUP 1 OR 2, UNLESS NOTED OTHERWISE.
2. STAINLESS STEEL PLATES, BARS AND RODS SHALL CONFORM TO ASTM A240, TYPE 316L.
3. STAINLESS STEEL STRUCTURAL SHAPES AND STUDS SHALL CONFORM TO ASTM A276, TYPE 316L.

ALUMINUM

1. UNLESS NOTED OTHERWISE, ALUMINUM ALLOY IN ALL ALUMINUM STRUCTURAL MATERIALS SHALL BE 6061-T6. PIPE AND TUBING FOR GUARDRAIL AND HANDRAIL SHALL BE ALLOY 6061-T6.
2. ALL ALUMINUM SURFACES IN CONTACT WITH CONCRETE OR DISSIMILAR METALS SHALL BE COATED OR COVERED WITH A HEAVY COAT OF EPOXY ENAMEL TO PREVENT ALUMINUM-CONCRETE REACTION OR ELECTROLYTIC ACTION.
3. ALL ALUMINUM WELDING SHALL CONFORM TO THE PROVISIONS OF THE LATEST STRUCTURAL WELDING CODE (AWS D1.2)
4. AN AWS CERTIFIED FABRICATOR IS REQUIRED FOR ALL ALUMINUM STRUCTURES.

STRUCTURAL STEEL

1. UNLESS NOTED OTHERWISE, STRUCTURAL STEEL SHALL CONFORM TO ASTM A36, ROLLED WIDE FLANGE SHAPES TO ASTM A992; STRUCTURAL PIPES TO ASTM A53, TYPE E OR S, GRADE B OR ASTM A500, GRADES B OR C, OR ASTM A501; STRUCTURAL TUBING TO ASTM A500, GRADE B OR C. ALL STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN CONFORMANCE WITH THE NINTH EDITION OF AISC SPECIFICATIONS PARTS 1 THRU 4 AND THE "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS."
2. ANCHOR BOLTS SHALL CONFORM TO ASTM A307 OR TO ASTM A36 THREADED ROD UNLESS NOTED OTHERWISE ON THE DRAWINGS. SET ANCHOR BOLTS WITH TEMPLATE AND SECURE TO PREVENT MOVEMENT DURING CONCRETE OR GROUT PLACEMENT .

STRUCTURAL NOTES

3. ALL WELDING SHALL BE DONE BY AWS CERTIFIED WELDERS. WELDING SHALL CONFORM TO THE PROVISIONS OF THE LATEST STRUCTURAL WELDING CODE (AWS D1.1) . ALL WELDING SHALL BE PERFORMED IN ACCORDANCE WITH THE SUBMITTED WRITTEN PROCEDURES, USING ONLY THOSE JOINT DETAILS WHICH HAVE PREQUALIFIED STATUS WHEN PERFORMED IN ACCORDANCE WITH D1.1. WELD ELECTRODES SHALL BE E70XX.
4. UNLESS NOTED OTHERWISE, ALL STRUCTURAL STEEL COMPONENTS AND CONNECTIONS SHALL BE PAINTED OR PROTECTIVE COATED IN ACCORDANCE WITH THE SPECIFICATIONS.
5. ALL CONNECTIONS SHALL BE WELDED OR BOLTED IN ACCORDANCE WITH THE DETAILS, SPECIFICATIONS, AND THE NINTH EDITION OF THE AISC HANDBOOK OF FRAMED BEAM CONNECTIONS. BOLTS SHALL BE ASTM A325N, 3/4 INCH DIAMETER, UNLESS NOTED OTHERWISE.
6. IN A TIMELY MANNER, BEFORE CONSTRUCTION BEGINS, AN ANCHOR BOLT SETTING PLAN AND DETAILED PROCEDURE FOR THE INSTALLATION OF BASE PLATES AND SHEAR LUGS SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR REVIEW. ANCHOR BOLTS AND SHEAR LUGS EMBEDDED IN CONCRETE SHALL BE ACCURATELY POSITIONED WITH A TEMPLATE AND ADEQUATELY SECURED TO PREVENT MOVEMENT UNTIL CONCRETE HAS SET.
7. LISTED THICKNESS OF BASE PLATES IS NET FINISH AFTER MILLING. BASE PLATES MAY BE PRESSED FLAT AT FABRICATORS OPTION.
8. HOLES FOR ANCHOR BOLTS IN COLUMN BASE PLATES SHALL BE AS FOLLOWS:  
  
BOLT 3/4" TO 1" - 5/16" OVERSIZE  
BOLT 1" TO 2" - 1/2" OVERSIZE  
BOLTS OVER 2" - 1" OVERSIZE  
  
AT THE CONTRACTORS OPTION, OVERSIZE HOLES LARGER THAN THOSE LISTED ABOVE MAY BE USED, PROVIDED THAT 3/8" PLATE WASHERS ARE ALSO USED AND FIELD WELDED WITH A 5/16" FILLET TO THE BASE PLATE ALONG A MIN OF 3 SIDES.

FIBERGLASS REINFORCED PLASTICS (FRP)

1. MATERIAL: PROVIDE CLASS 1 FIRE RESISTANT FRP MATERIAL PER ASTM E84. USE VINYL ESTER RESIN WITH UV RESISTANT VEIL FOR ALL SHAPES AND GRATING.
2. CONNECTIONS: MAKE CONNECTIONS BETWEEN MULTIPLE FRP MEMBERS WITH STAINLESS STEEL BOLTS AND MANUFACTURER'S RECOMMENDED ADHESIVE. MAKE CONNECTIONS OF FRP MEMBERS TO CONCRETE WITH STAINLESS STEEL ANCHORS.

SOIL AND FOUNDATIONS

1. ALL EARTHWORK AND FOUNDATION CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS.
2. FOUNDATION CONSTRUCTION SHALL NOT BEGIN UNTIL THE SPECIAL INSPECTION HAS BEEN COMPLETED AND THE CONTRACTOR NOTIFIED TO PROCEED.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGN, CONSTRUCTION, OPERATIONS, MAINTENANCE, AND REMOVAL OF SHORING SYSTEMS.

LOADING CRITERIA

1. DEAD LOAD ..... CALCULATED
2. LIVE LOADS:  
OPERATING AND PROCESS FLOORS ..... 100 PSF (OUTSIDE MEMBRANE SKIDS)  
STAIRS, SERVICE PLATFORMS & LANDINGS ..... 100 PSF  
GRATING AREAS ..... 100 PSF  
ALL FLOORS NOT INDICATED ..... 100 PSF  
ROOF ..... 12 PSF (FOR ROOF GIRDERS)
3. SOIL WEIGHT AND LATERAL EARTH PRESSURE (EFP)  
  
ACTIVE PRESSURE:  
LEVEL BACKFILL ABOVE MAX  
GROUNDWATER LEVEL (GWL)..... 45 PCF  
  
AT-REST PRESSURE:  
LEVEL BACKFILL ABOVE GWL ..... 65 PCF  
  
DESIGN SOIL UNIT WEIGHT..... 125 PCF
4. LATERAL SURCHARGE ..... EQUIVALENT OF 2 FT OF SOIL (120 PSF UNIFORM PRESSURE) WHERE ADJACENT TO ROADWAY
5. BEARING PRESSURE ..... 2000 PSF (ABOVE EL 110) FOR DL+LL, 2670 PSF FOR LOAD COMBINED W/WIND OR SEISMIC LOAD
6. HYDROSTATIC FLUID PRESSURE ..... 63 PSF/FT
7. WIND LOAD:  
OCCUPANCY CATEGORY ..... III  
BASIC WIND SPEED ..... 85 MPH  
EXPOSURE ..... C  
IMPORTANCE FACTOR ..... 1.15
8. SEISMIC LOAD:  
OCCUPANCY CATEGORY ..... III  
DESIGN CATEGORY ..... D  
IMPORTANCE FACTOR (I) ..... 1.25, Ip = 1.50 OR Ip = 1 (PER ASCE 7-05, 13.1.3)  
  
SITE CLASS ..... D  
STRUCTURAL SYSTEM "R" ..... ASCE 7-05 TABLES, 12.2-1, 13.5-1, 13.6-1, 15.4-1 AND 15.4-2  
  
SEISMIC COEFFICIENT, SD1..... 0.317 g  
SEISMIC COEFFICIENT, SDS ..... 0.547 g

SPECIAL INSPECTIONS

1. SPECIAL INSPECTION IN ACCORDANCE WITH 2007 CBC, CHAPTER 17 SHALL BE REQUIRED FOR THE FOLLOWING TYPES OF WORK BUT NOT LIMITED TO. CONTACTOR SHALL REQUEST THESE INSPECTIONS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.  
  
A. CONCRETE (f'c GREATER THAN 2500 PSI)  
- PLACING OF REINFORCING STEEL  
- PLACING OF ANCHOR BOLTS OR EMBEDDED PLATES  
- INSTALLATION OF MECHANICAL COUPLERS  
- DURING THE TAKING OF TEST SPECIMENS & PLACING OF REINFORCED CONCRETE (SUBJECT TO THE EXCEPTIONS LISTED IN OSSCA, CHAPTER 17.)  
B. WELDING  
- ALL STRUCTURAL STEEL  
- HEADED STUDS OR DOWELS FOR EMBEDDED PLATES  
C. HIGH STRENGTH BOLTING  
D. MASONRY CONSTRUCTION  
E. GRADING, EXCAVATION AND FILLING  
F. INSTALLATION OF EXPANSION ANCHORS, ADHESIVE ANCHORS AND EPOXY ANCHORS AS REQUIRED BY THE RESPECTIVE ICBO EVALUATION REPORT.

STRUCTURAL OBSERVATION

1. STRUCTURAL OBSERVATION DURING THE CONSTRUCTION PHASE SHALL BE PROVIDED IN ACCORDANCE WITH THE 2007 CBC CHAPTER 17.
2. OWNER SHALL ENGAGE THE ENGINEER-OF-RECORD (ER) OR ANOTHER ENGINEER DESIGNATED BY, AND UNDER THE DIRECT SUPERVISION OF, THE ER. TO PROVIDE STRUCTURAL OBSERVATION.
3. NOTIFY THE ER AT A MINIMUM 48 HOURS FOR A SITE VISIT TO CONDUCT THE OBSERVATION FOR THE FOLLOWING CONSTRUCTION PHASES:  
A. AFTER PLACEMENT OF REINFORCING STEEL AND PRIOR TO CONCRETE PLACEMENT.  
B. ROOF DECK WELDING PRIOR TO STANDING SEAM ROOF INSTALLATION.
4. STRUCTURAL OBSERVATIONS ARE NOT TO BE CONSTRUED AS INSPECTION OF THE WORK. STRUCTURAL OBSERVATION BY THE ER DOES NOT RELIEVE THE CONTRACTOR'S RESPONSIBILITY FOR BUILDING THE PROJECT, CONTROLLING THE PROGRESS, PROVIDING SAFE WORKING CONDITIONS, AND CORRECTING ANY DEVIATIONS FROM PROJECT REQUIREMENTS.

PRELIMINARY – NOT FOR CONSTRUCTION



REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)
FILE _____
DRAWN _____
DESIGNED _____
CHECKED _____

CONTRACT NUMBER

SACRAMENTO REGIONAL  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT – PHASE II

STRUCTURAL  
GENERAL NOTES

SCALE

NONE

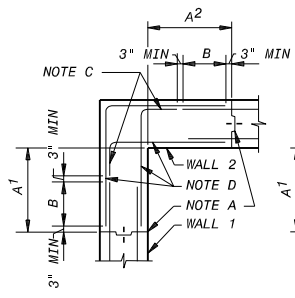
DRAWING NUMBER

SG000

SHEET NUMBER

27 OF 236

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 B0034202

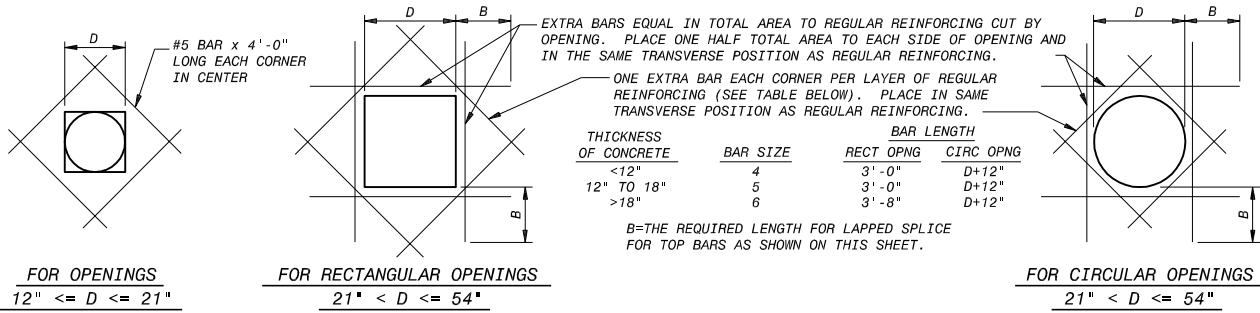


NOTES:  
 A = VERTICAL CONSTRUCTION JOINT NEAREST TO WALL CORNER.  
 A(ALT) = ALTERNATE VERTICAL CONSTRUCTION JOINT NEAREST TO WALL CORNER IN T WALL JOINT WHICH DOES NOT REQUIRE WATERSTOP.  
 A<sup>X</sup> (X=1,2,ETC.) = DISTANCE FROM INSIDE CORNER FACE TO NEAREST VERTICAL CONSTRUCTION JOINT IN SIMILARLY NUMBERED WALL. A<sup>X</sup> SHALL NOT BE LESS THAN DIMENSIONS INDICATED BY THESE DETAILS; NOR GREATER THAN INDICATED ON PLAN DRAWINGS; BUT IN ANY CASE SHALL NOT EXCEED 30 FEET IN LIQUID CONTAINMENT STRUCTURES OR 40 FEET IN OTHER STRUCTURES. IN T WALL JOINTS WHICH DO NOT REQUIRE WATERSTOP, A<sup>1</sup> MAY BE ZERO.

MAIN REINFORCEMENT FOR ALL STRUCTURES

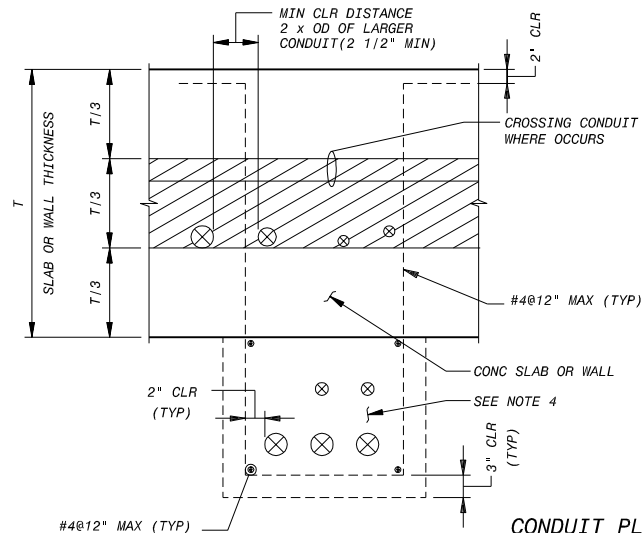
TYPICAL HORIZONTAL CORNER REINFORCING DETAILS

- NOTES:  
 1. VERTICAL REINFORCING NOT SHOWN.  
 2. THESE DETAILS SHALL BE APPLICABLE TO ALL WALL CORNERS UNLESS NOTED OTHERWISE ON THE DRAWINGS.



TYPICAL EXTRA REINFORCING AT OPENINGS 12" TO <= 54"

- NOTES:  
 1. TYPICAL REQUIRED UNLESS ADDITIONAL REINFORCEMENT SPECIFICALLY INDICATED AT OPENINGS ON DRAWINGS.  
 2. FOR OPENINGS LARGER THAN 54" USE EXTRA REINFORCING BASED ON D=54".



CONDUIT PLACING DETAIL  
 NO SCALE

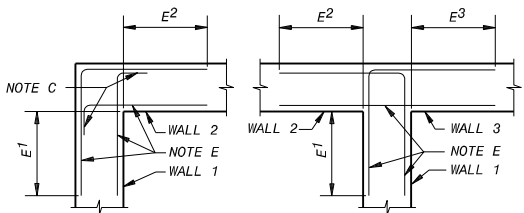
- NOTES:  
 1. PLACE CONDUIT ONLY IN SHADED AREA  
 2. FOR CONDUIT REQUIREMENTS SEE THE ELECTRICAL DRAWINGS AND SPECIFICATIONS.  
 3. CONDUIT SHALL NOT BE PLACED IN BEAM OR COLUMN UNLESS APPROVED BY ENGINEER.  
 4. IF THE SPACING REQUIREMENT BETWEEN CONDUITS AS SHOWN CANNOT BE MET WITHIN T/3, USE CONCRETE ENCASEMENT OUTSIDE WALL OR SLAB AS SHOWN BY DASHED LINES.  
 5. FOR CONDUITS PENETRATING SLAB OR WALL, BLOCKOUT ONLY MINIMUM NECESSARY AREA OF SLAB OR WALL AND PROVIDE EXTRA REINFORCING AT THE BLOCKOUTS AS SHOWN ON THIS SHEET.



REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES  
 AT FULL SIZE  
 (IF NOT 2"-SCALE ACCORDINGLY)  
 FILE \_\_\_\_\_  
 DRAWN \_\_\_\_\_  
 DESIGNED \_\_\_\_\_  
 CHECKED \_\_\_\_\_

CONTRACT NUMBER



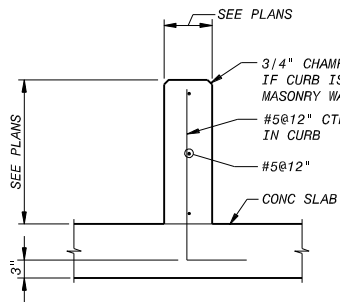
E = WHERE SPECIFICALLY NOTED ON THE DRAWINGS, ADDITIONAL CORNER REINFORCEMENT SHALL BE PLACED IN BOTH FACES OF THE INDICATED CORNER OVER THE FULL HEIGHT. ADDITIONAL CORNER REINFORCEMENT SHALL BE OF THE SAME SIZE AND SPACING AS THE MAIN CORNER REINFORCEMENT. PLACE ADDITIONAL REINFORCEMENT ALTERNATELY WITH, AND EQUAL DISTANCE BETWEEN, MAIN CORNER REINFORCEMENT.

E<sup>X</sup> (X=1,2,ETC.) = DISTANCE FROM INSIDE CORNER FACE TO TERMINATION OF ADDITIONAL CORNER REINFORCEMENT IN SIMILARLY NUMBERED WALL. E SHALL NOT BE LESS THAN 0.20 THE CLEAR SPAN DISTANCE MEASURED HORIZONTALLY BETWEEN THIS CORNER AND THE NEXT OR 0.40 THE CLEAR SPAN DISTANCE OR CANTILEVERED DISTANCE MEASURED VERTICALLY, WHICHEVER IS SMALLER, BUT NOT LESS THAN 3'-0".

CONTRACTORS OPTION:  
 E BAR TAILS MAY BE SPLICED USING LAPPED SPLICE LENGTHS FOR TOP BARS. SPLICES SHALL NOT BE LOCATED IN THE CORNER AREA COMMON TO BOTH WALLS AND SHALL CLEAR HOOK ENDS BY 3" MIN.

ADDITIONAL REINFORCEMENT WHERE SPECIFICALLY NOTED ON THE DRAWINGS

DETAIL A  
 NO SCALE

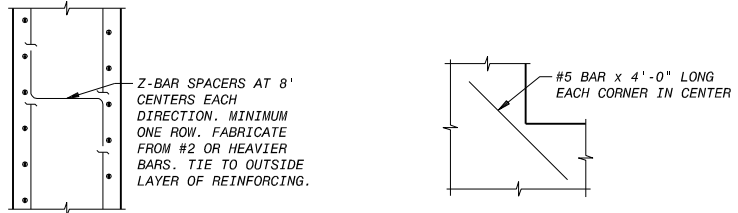


NOTE:  
 WHEN CURB WIDTH EXCEEDS 8", PROVIDE ABOVE REINF IN EACH FACE OF CURB.

TYPICAL CONCRETE CURB C  
 NO SCALE

NOTES

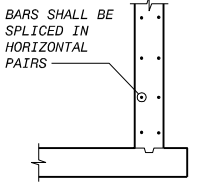
1. DETAILS ON THIS DRAWING APPLY TO ALL DRAWINGS UNLESS OTHERWISE NOTED.  
 2. WORK THIS DRAWING WITH THE STANDARD CONCRETE JOINT DETAILS.  
 3. UNLESS SHOWN OTHERWISE, ALL DOWELS SHALL MATCH SIZE AND SPACING OF REBARS TO BE SPLICED TO AND HAVE 90 DEG HOOK LOCATED AT FAR SIDE OF INTERSECTING MEMBERS WITH PROPER CONCRETE COVER.



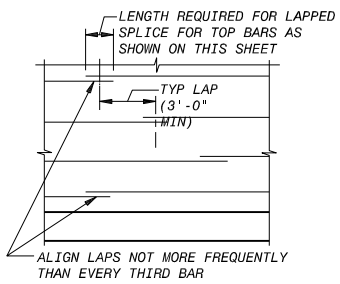
SPACERS FOR WALL REINFORCEMENT

TYPICAL EXTRA REINFORCING AT ISOLATED RE-ENTRANT CORNERS

(TYPICAL REQUIRED UNLESS ADDITIONAL REINFORCEMENT SPECIFICALLY INDICATED AT OPENINGS ON DRAWINGS)



WALL SECTION



WALL ELEVATION

TYPICAL CIRCULAR TANK OR RING WALL REINFORCING SPLICE DETAIL

LENGTH OF LAPPED SPLICES FOR REINFORCEMENT (INCHES) (UNLESS NOTED OTHERWISE ON THE DRAWINGS) (f'c=4000 PSI)						CONCRETE COVER FOR REINFORCEMENT	
BAR SIZE	BEAMS & COLUMNS		WALLS & SLABS		BAR SIZE	LOCATION	MINIMUM COVER
	*TOP BARS	OTHERS	*TOP BARS	OTHERS			
3	16	16	16	16	3	UNFORMED SURFACES ADJACENT TO EXCAVATION	3"
4	20	16	20	16	4	SURFACES INSIDE OF OZONE CONTACTORS EXPOSED TO OZONE IN WATER OR AIR	3"
5	26	20	29	22	5	FORMED OR TOP SURFACES EXPOSED TO WEATHER OR SATURATED AIR, SUBMERGED OR IN CONTACT WITH EARTH, INCLUDING STIRRUPS, TIES OR SPIRALS	2"
6	37	29	29	23	6	OTHER LOCATIONS: BARS IN BEAMS OR GIRDERS, INCLUDING STIRRUPS AND COLUMN SPIRALS OR TIES	1 1/2"
7	60	47	48	37	7	SLABS, WALLS AND JOISTS #6 AND LARGER	1 1/2"
8	70	54	60	47	8	#5 AND SMALLER	1"
9	80	62	74	57	9	NOTE: TOLERANCES FOR CONCRETE COVER AND THE FABRICATION AND PLACING OF REINFORCEMENT SHALL CONFORM TO ACI 117.	
10	92	70	91	70	10		
11	103	79	109	84	11		

- \* TOP BARS ARE HORIZONTAL BARS SO PLACED THAT MORE THAN 12" OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR. HORIZONTAL BARS IN WALLS ARE TO BE PROVIDED WITH LAP LENGTHS AS REQUIRED FOR TOP BARS. VERTICAL BARS MAY BE CONSIDERED AS OTHER BARS.  
 \* WHERE DIFFERENT BARS ARE TO BE LAP-SPLICED, LAPPED SPLICE LENGTH SHALL BE BASED ON LARGER BAR.

PRELIMINARY – NOT FOR CONSTRUCTION



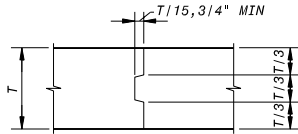
SACRAMENTO REGIONAL COUNTY  
 SANITATION DISTRICT  
 OF SACRAMENTO COUNTY, CALIFORNIA  
 SACRAMENTO REGIONAL  
 WASTEWATER TREATMENT PLANT  
 WATER RECLAMATION FACILITY  
 EXPANSION PROJECT – PHASE II

STRUCTURAL  
 STANDARD CONCRETE REINFORCING  
 DETAILS

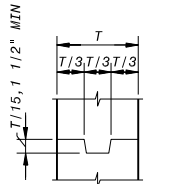
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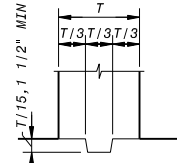
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SLABS

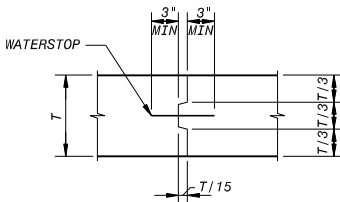


WALLS

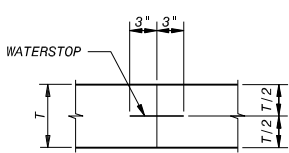


BASE OF WALLS

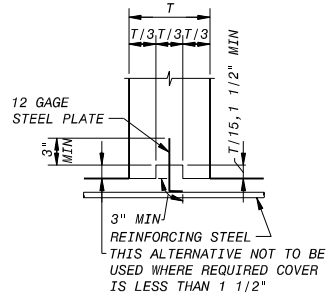
JOINTS WITHOUT WATERSTOPS



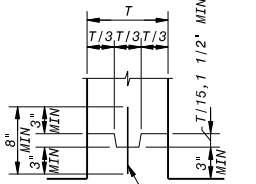
SECTION  
T > 12"



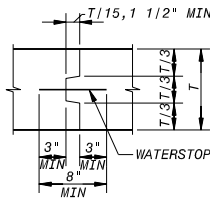
SECTION  
T < 12"



ALTERNATIVE  
T > 12"

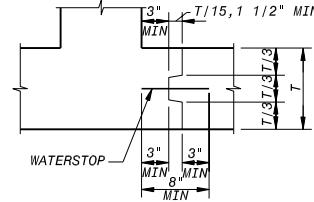


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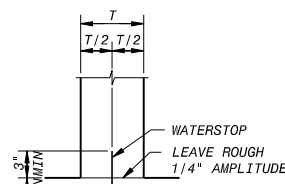
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WALLS



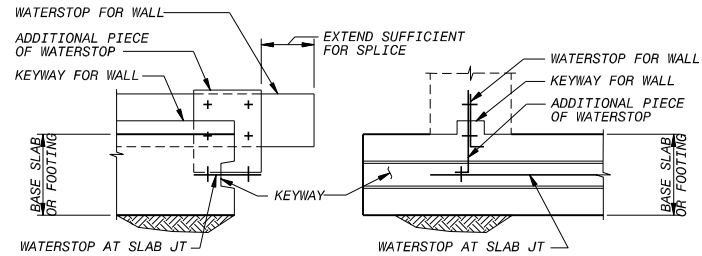
T > 12"

CORNERS

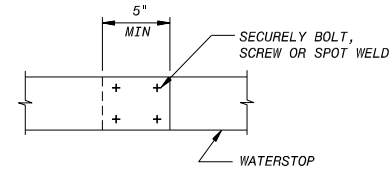


ALTERNATIVE  
T < 12"

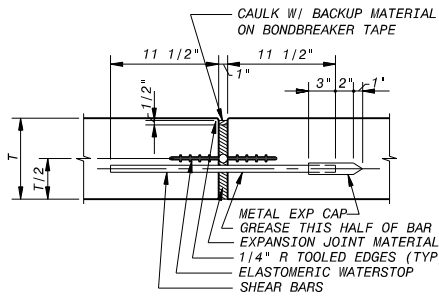
- NOTES
1. DETAILS ON THIS DRAWING APPLY TO ALL DRAWINGS UNLESS OTHERWISE NOTED.
  2. WORK THIS DRAWING WITH THE STANDARD CONCRETE REINFORCING DETAILS.
  3. AT WALL JOINTS AND AT WALL BASE JOINTS, SECURE ALL ELASTOMERIC WATERSTOPS IN THE CORRECT POSITION USING HOG RINGS OR GROMMETS SPACED AT 12 INCHES ALONG THE LENGTH OF THE WATERSTOP AND WIRE TIE TO ADJACENT REINFORCING STEEL.
  4. AT SLAB JOINTS AND FOOTING JOINTS, ENSURE SPACE BENEATH AND AROUND WATERSTOP IS COMPLETELY FILLED WITH CONSOLIDATED CONCRETE. DURING OPERATION MAKE VISUAL INSPECTION OF ENTIRE WATERSTOP AREA. LIMIT CONCRETE PLACEMENT TO ELEVATION OF WATERSTOP IN FIRST LIFT. RAISE ELASTOMERIC WATERSTOPS TO CONFIRM FULL CONSOLIDATION WITHOUT VOIDS. PLACE REMAINING CONCRETE TO FULL DEPTH OF SLAB.



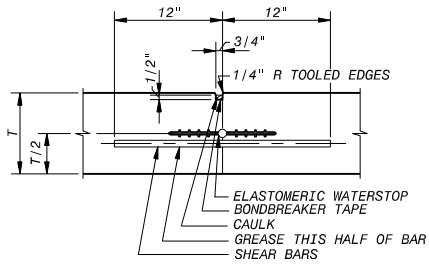
STEEL WATERSTOP INTERSECTION AT BASE SLAB CONSTRUCTION JOINT



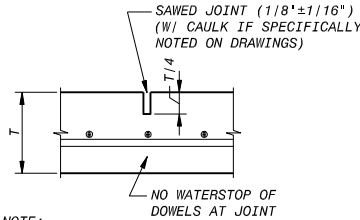
STEEL WATERSTOP SPLICE



SLABS



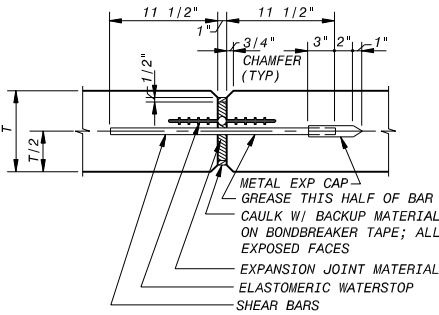
SLABS



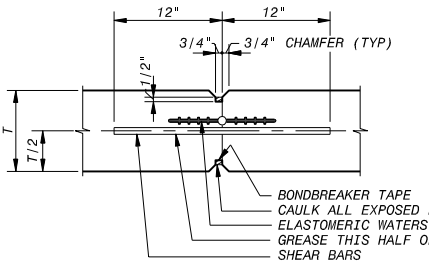
NOTE:  
IF SINGLE LAYER REINFORCEMENT, EVERY OTHER BAR IS DISCONTINUOUS AT JOINT.  
IF 2 LAYER REINFORCEMENT, TOP LAYER IS COMPLETELY DISCONTINUOUS AT JOINT.

SAWED CONTRACTION JOINT  
SLAB-ON-GRADE

- NOTES:
1. TYPICAL CONTROL JOINT NOTES 1 THRU 3 NOT APPLICABLE.
  2. "SJ" - NO WATERSTOP
  3. JOINT FORMED WITH TOOL OR INSERT STRIP MAY BE SUBSTITUTED FOR SAWED TYPE ONLY WITH PRIOR ACCEPTANCE BY THE ENGINEER.



WALLS



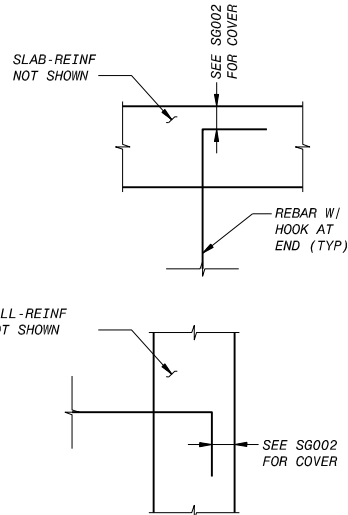
WALLS

CONTRACTION JOINTS

NOTE:  
"CJ" W/ WS" - WITH ELASTOMERIC WATERSTOP  
"CJ" - WITHOUT ELASTOMERIC WATERSTOP

TYPICAL CONTROL JOINTS

- NOTES:
1. PROVIDE 3/4" SHEAR BARS @ 1'-6" CTRS ACROSS JOINT UNLESS NOTED OTHERWISE.
  2. REINFORCING STEEL SHALL NOT BE EXTENDED ACROSS JOINT UNLESS NOTED OTHERWISE.
  3. SHEAR BARS SHALL BE SMOOTH FREE FROM RUST OR SCALE, AND GREASED TO PREVENT BOND (ONE HALF OF BAR ONLY).



NOTE: ALL REINFORCING BARS WITH HOOK AT END SHALL TERMINATE AT FAR SIDE OF SLAB OR WALL AS SHOWN IN THIS DETAIL UNLESS NOTED OTHERWISE.

TERMINATION LOCATION OF REBARS W/ HOOK

NO SCALE

PRELIMINARY – NOT FOR CONSTRUCTION

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REVISIONS				
ZONE	REV.	DESCRIPTION	BY	DATE
	A	50% SUBMITTAL		09/09
	B	90% SUBMITTAL		11/09
	C	100% SUBMITTAL		01/10

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)
FILE _____
DRAWN _____
DESIGNED _____
CHECKED _____

CONTRACT NUMBER

SACRAMENTO REGIONAL  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

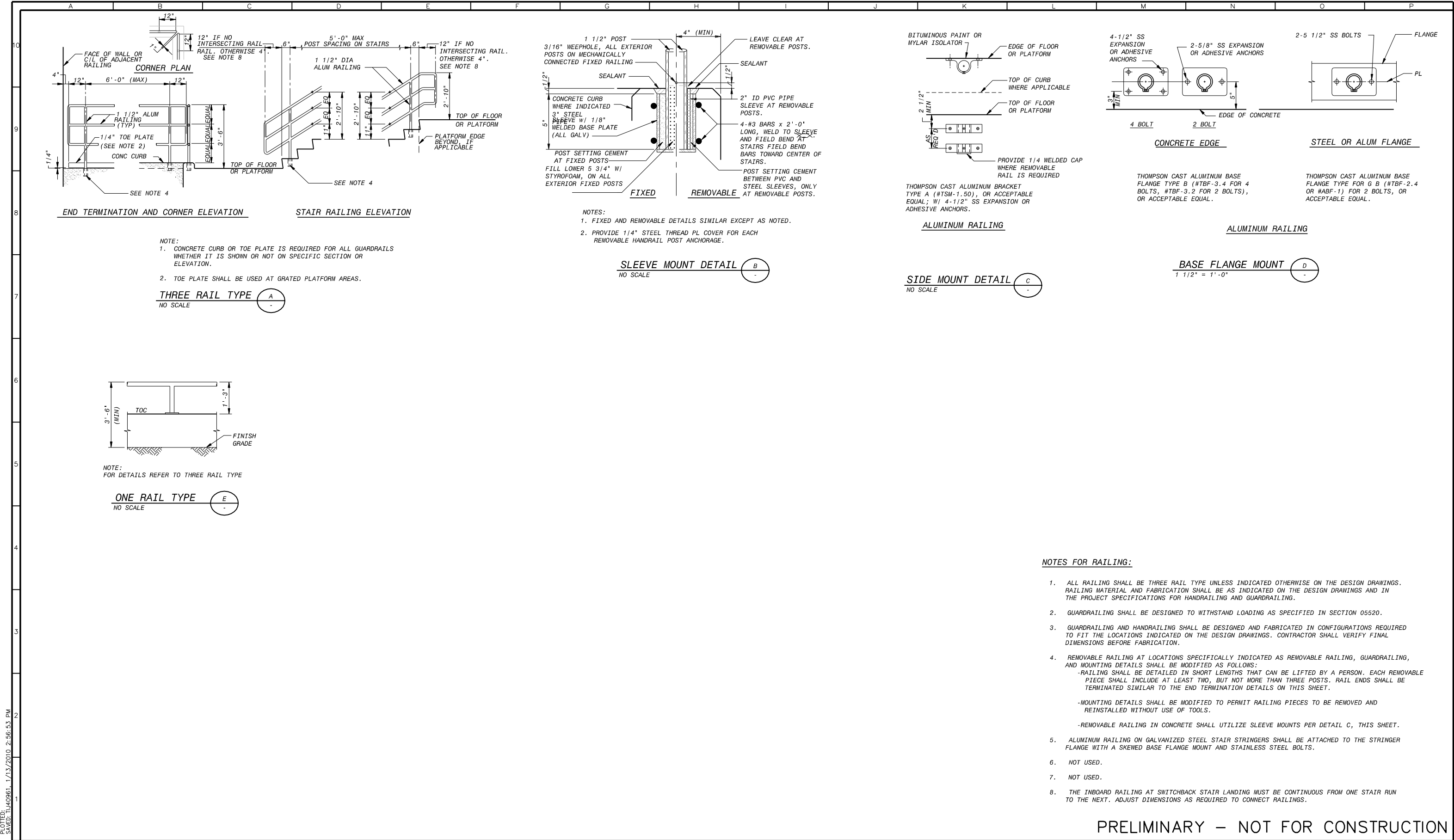
SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT – PHASE II

STRUCTURAL  
STANDARD CONCRETE JOINT DETAILS

SCALE  
NONE

DRAWING NUMBER  
**SG501**

SHEET NUMBER  
29 OF 236



PLOTTED: 11/13/2010 2:56:53 PM  
SAVE: 11/13/2010 2:56:53 PM  
F0034202  
B0034202



REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"=SCALE ACCORDINGLY)
FILE _____
DRAWN _____ JMM
DESIGNED _____ SUP
CHECKED _____

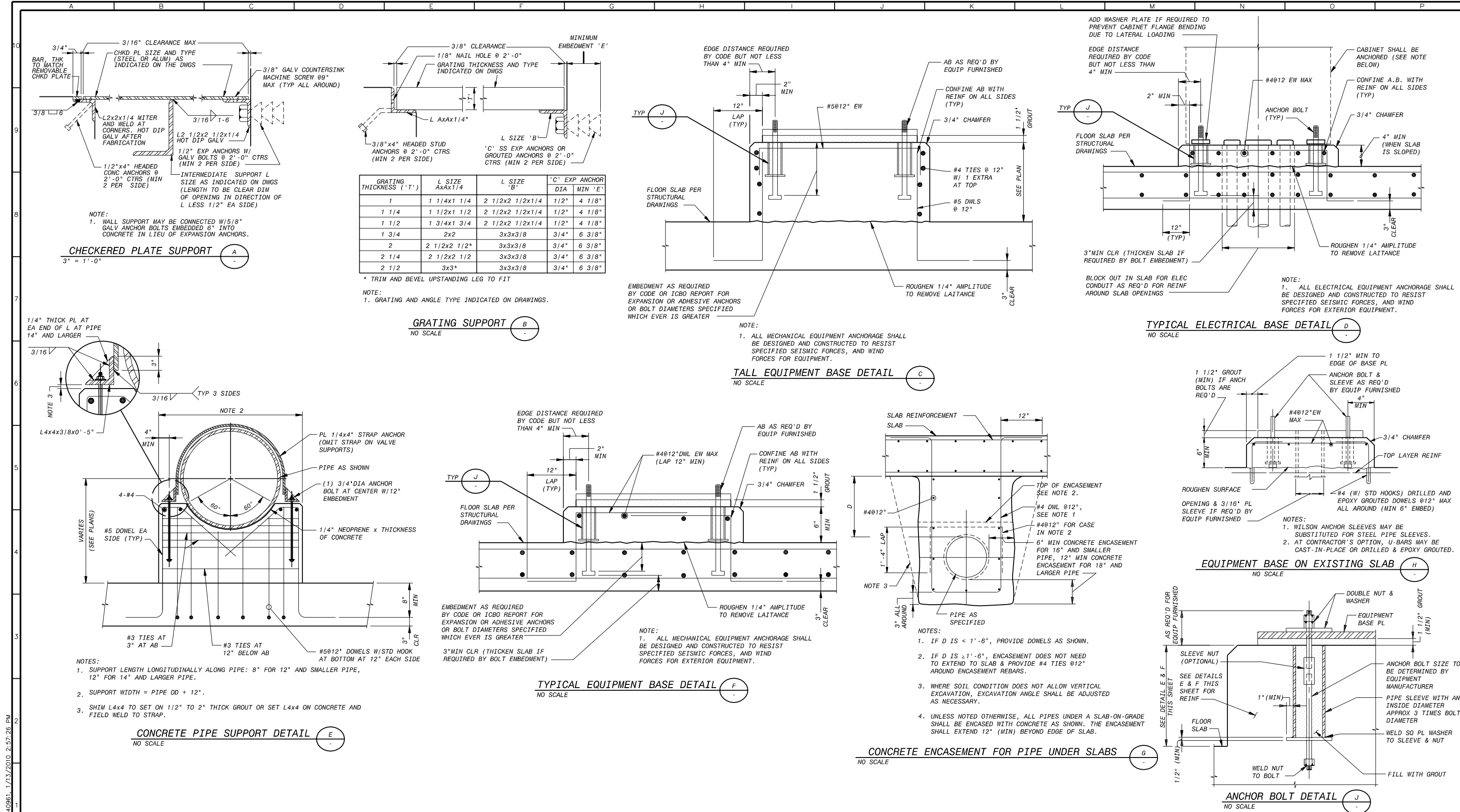
CONTRACT NUMBER _____
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SACRAMENTO REGIONAL SANITATION DISTRICT OF SACRAMENTO COUNTY, CALIFORNIA
SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT WATER RECLAMATION FACILITY EXPANSION PROJECT – PHASE II

STRUCTURAL STANDARD MISCELLANEOUS DETAILS
--

SCALE NONE
DRAWING NUMBER SG502
SHEET NUMBER 30 OF 236





PRELIMINARY – NOT FOR CONSTRUCTION

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SRCSD

REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)

FILE \_\_\_\_\_

DRAWN \_\_\_\_\_ JMM

DESIGNED \_\_\_\_\_ SUP

CHECKED \_\_\_\_\_

CONTRACT NUMBER \_\_\_\_\_

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT – PHASE II

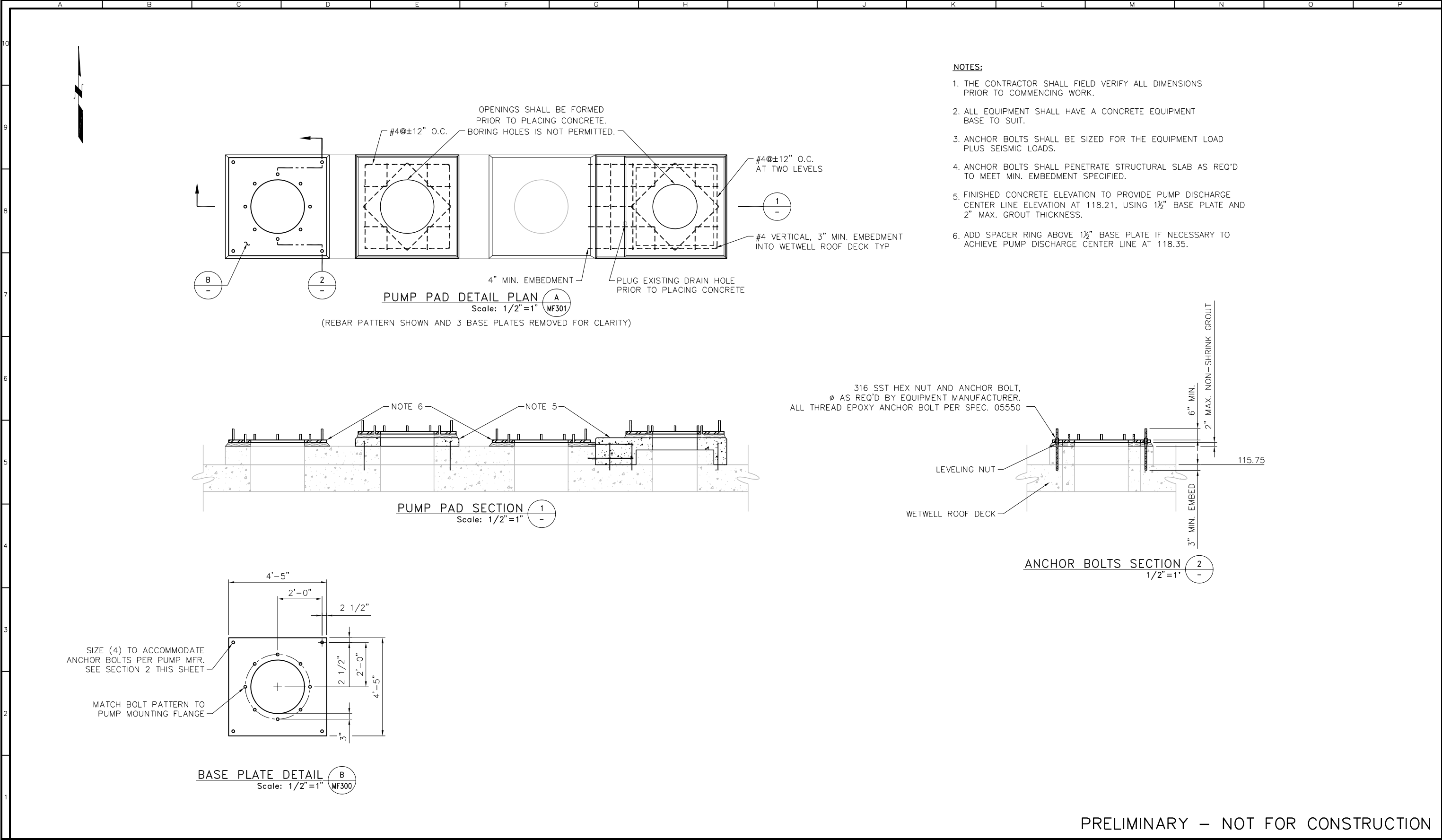
STRUCTURAL

STANDARD MISCELLANEOUS DETAILS

SCALE  
NONE

DRAWING NUMBER  
**SG503**

SHEET NUMBER  
31 OF 236



FBDR342202  
B09342202  
PLOTTED:  
SAYED:

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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)	
FILE	FILE NAME
DRAWN	DB
DESIGNED	DB
CHECKED	DW/LZ

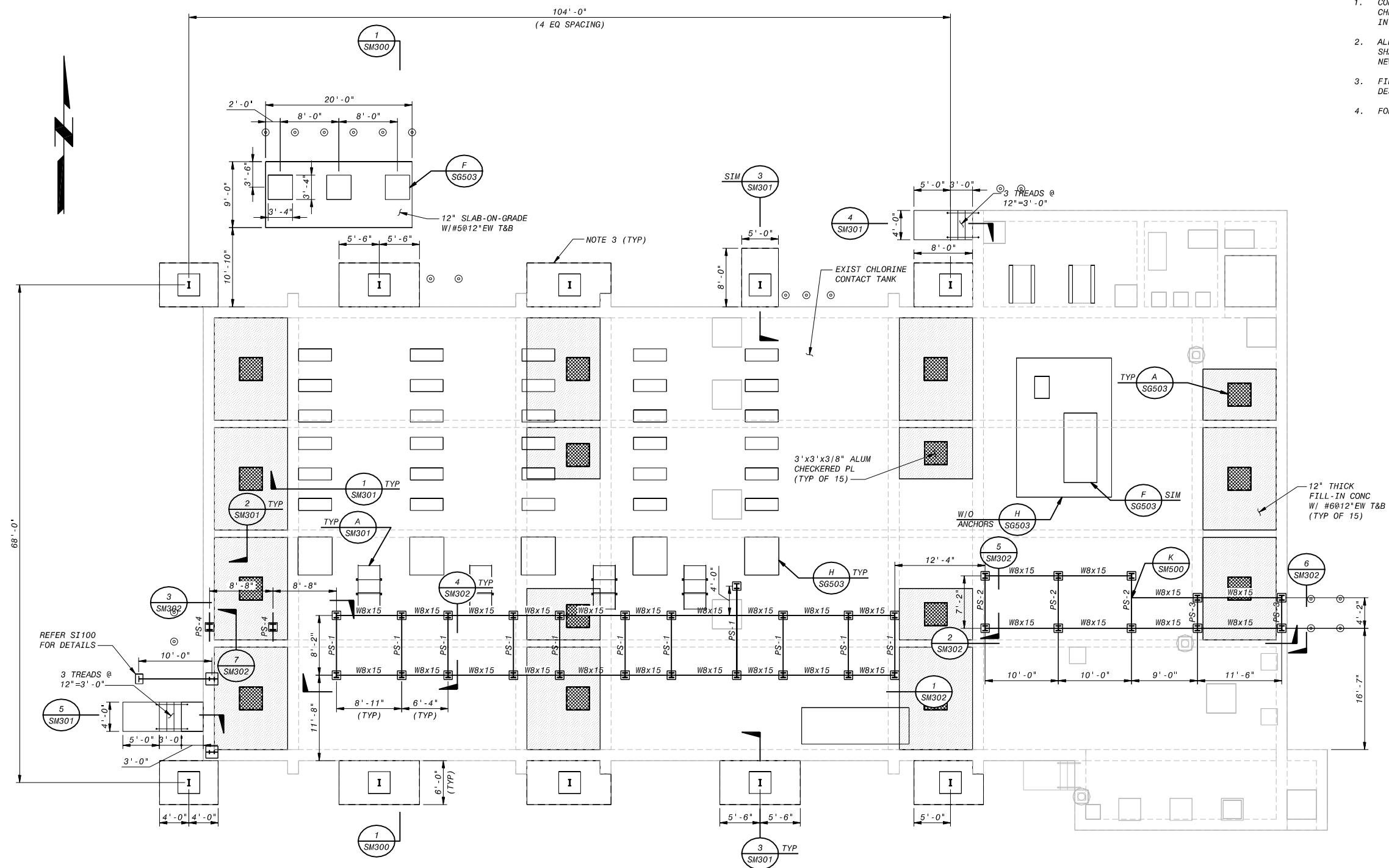
TBD  
CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA  
  
SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT

STRUCTURAL  
  
FILTER FEED PUMP STATION  
CONCRETE BASE SECTION

SCALE  
1/2" = 1'  
DRAWING NUMBER  
**SF 300**  
SHEET NUMBER  
33 OF 236

PRELIMINARY – NOT FOR CONSTRUCTION



- NOTES:**
1. CONTRACTOR SHALL REMOVE ALL EXISTING HARDWARE FOR CHECKERED PLATE SUPPORTS. FOR ANCHORS BURN 1" DEEP INTO CONCRETE AND PATCH W/EPOXY GROUT.
  2. ALL EXISTING CONCRETE SURFACES RECEIVING NEW CONCRETE SHALL BE ROUGHENED TO 1/4" AMPLITUDE MINIMUM PRIOR TO NEW CONCRETE PLACEMENT.
  3. FINAL FOOTING SIZE WILL BE DETERMINED AFTER BUILDING DESIGN IS FINALIZED BY BUILDING SUPPLIER.
  4. FOR LIGHTING INFORMATION REFER TO DWG EM114.

PRELIMINARY – NOT FOR CONSTRUCTION



REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"=SCALE ACCORDINGLY)

FILE \_\_\_\_\_  
DRAWN \_\_\_\_\_ GT  
DESIGNED \_\_\_\_\_ SUP  
CHECKED \_\_\_\_\_

CONTRACT NUMBER

**SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA**

**SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT – PHASE II**

STRUCTURAL  
MEMBRANE FILTRATION FACILITY  
PLAN

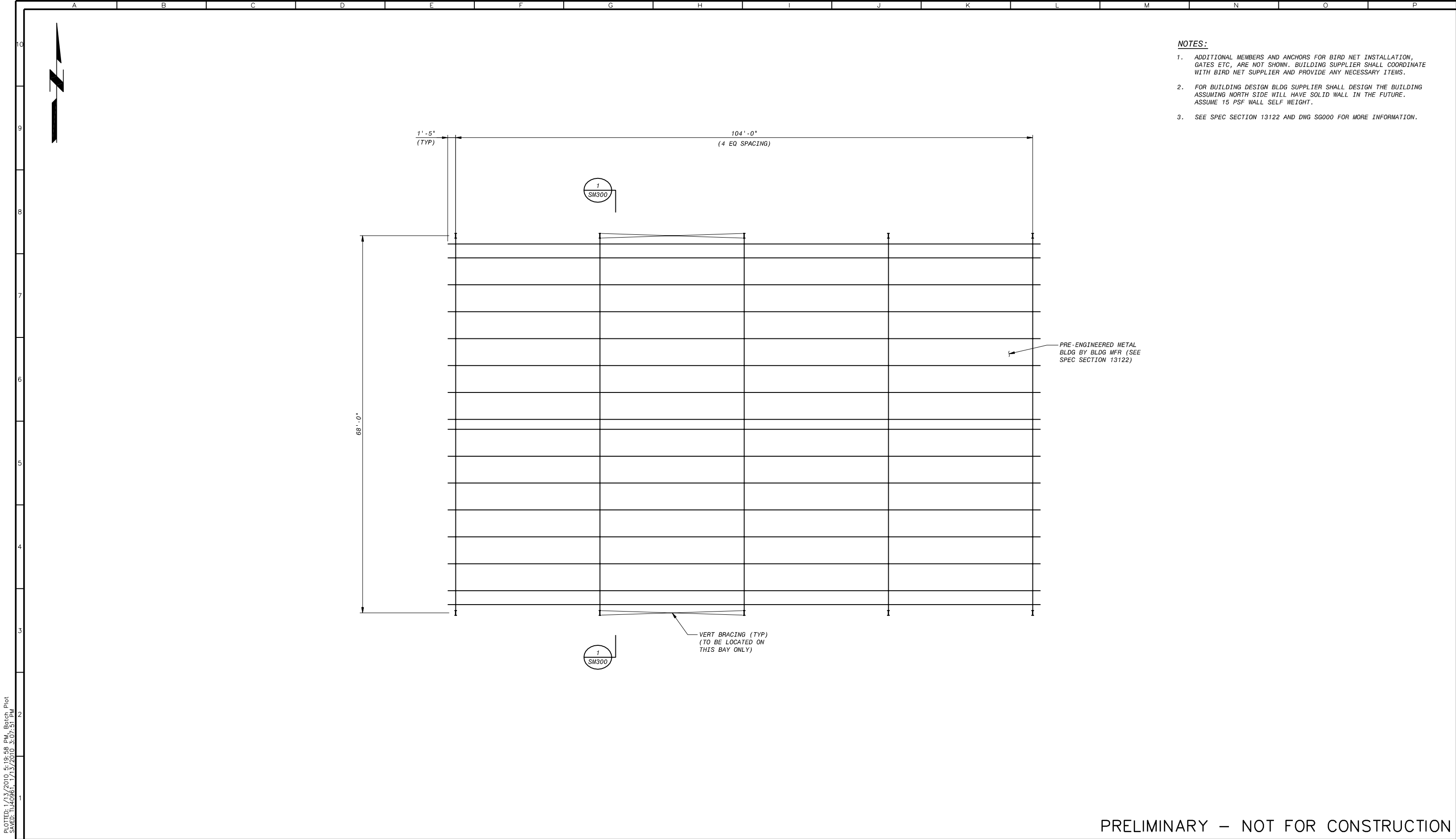
SCALE  
1/8"=1'-0"

DRAWING NUMBER  
**SM100**

SHEET NUMBER  
34 OF 236


DRAWING NUMBER  
**SM100**

SHEET NUMBER  
34 OF 236





- NOTES:**
1. ADDITIONAL MEMBERS AND ANCHORS FOR BIRD NET INSTALLATION, GATES ETC, ARE NOT SHOWN. BUILDING SUPPLIER SHALL COORDINATE WITH BIRD NET SUPPLIER AND PROVIDE ANY NECESSARY ITEMS.
  2. FOR BUILDING DESIGN BLDG SUPPLIER SHALL DESIGN THE BUILDING ASSUMING NORTH SIDE WILL HAVE SOLID WALL IN THE FUTURE. ASSUME 15 PSF WALL SELF WEIGHT.
  3. SEE SPEC SECTION 13122 AND DWG SG000 FOR MORE INFORMATION.

PRELIMINARY – NOT FOR CONSTRUCTION



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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"=SCALE ACCORDINGLY)

FILE \_\_\_\_\_  
DRAWN \_\_\_\_\_  
DESIGNED \_\_\_\_\_  
CHECKED \_\_\_\_\_

CONTRACT NUMBER \_\_\_\_\_

**SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA**

**SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT – PHASE II**

STRUCTURAL

**MEMBRANE FILTRATION FACILITY  
CANOPY STRUCTURE  
ROOF FRAMING PLAN**

SCALE  
1/8"=1'-0"

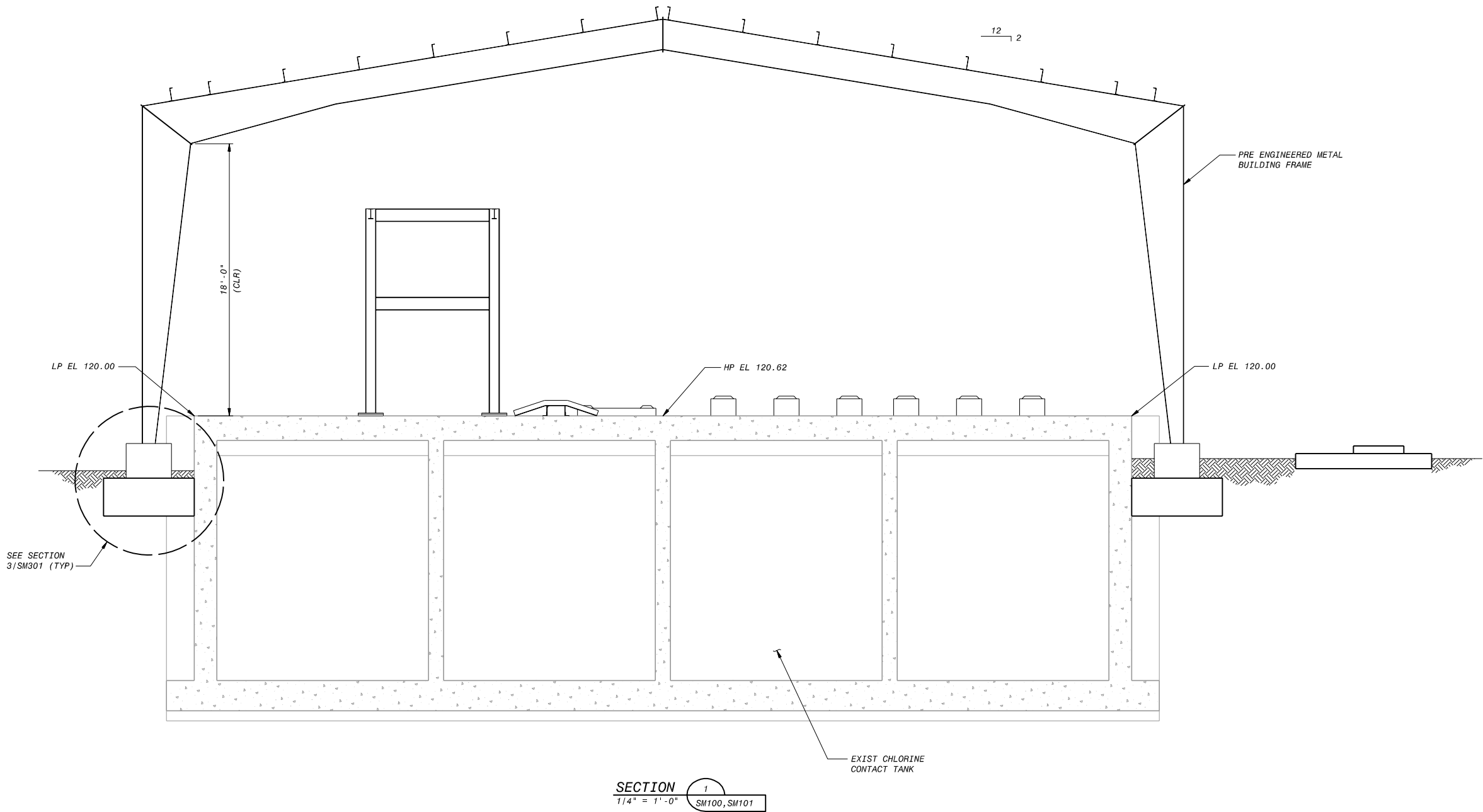
DRAWING NUMBER  
**SM101**

SHEET NUMBER  
35 OF 236

PLotted: 1/13/2010, 5:19:58 PM, Batch Plot  
Saved: 1/13/2010, 5:07:51 PM  
F09034202  
B09034202

PLOTTED: TUE0961, 1/15/2010, 11:35:10 AM  
 SAVED: TUE0961, 1/15/2010, 11:34:24 AM

F008342202  
 BDR342202



**NOTE:**  
 1. REFER TO OTHER STRUCTURAL DRAWINGS FOR DETAILS OF PIPE SUPPORTS, MEMBRANE SUPPORTS AND STILE.

PRELIMINARY – NOT FOR CONSTRUCTION



REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)	
FILE	
DRAWN	
DESIGNED	
CHECKED	

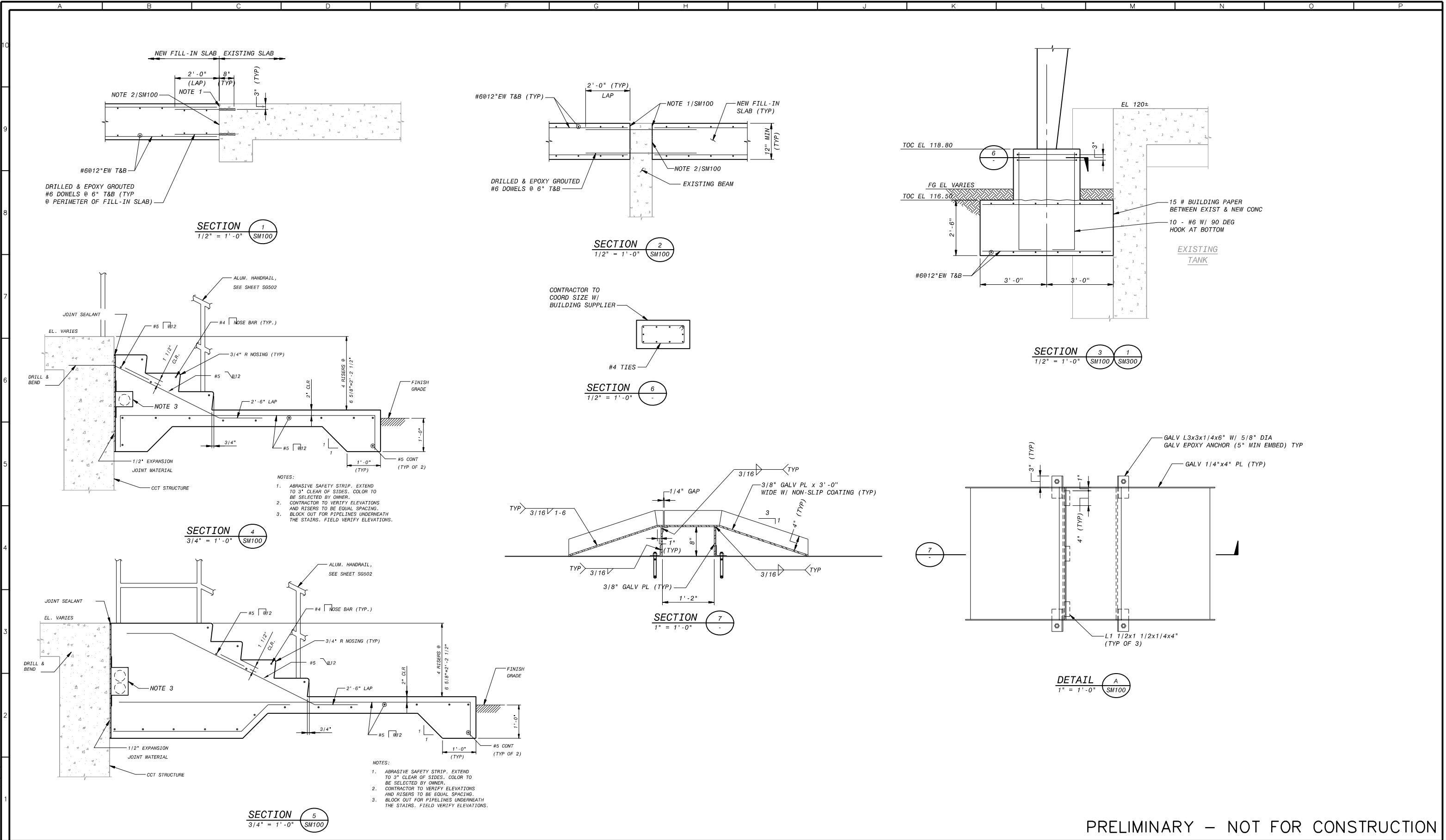
CONTRACT NUMBER
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SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT OF SACRAMENTO COUNTY, CALIFORNIA
SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT WATER RECLAMATION FACILITY EXPANSION PROJECT – PHASE II

STRUCTURAL MEMBRANE FILTRATION FACILITY SECTION
---

SCALE 1/4"=1'-0"
DRAWING NUMBER <b>SM300</b>
SHEET NUMBER 36 OF 236

PLOTTED: T:\40961\_1\15\2010\_11\46:06 AM  
 SAVED: T:\40961\_1\15\2010\_11\45:58 AM  
 F:\B342202  
 BDR342202



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**SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT**



REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)	
FILE	GT
DRAWN	SUP
DESIGNED	
CHECKED	

CONTRACT NUMBER

**SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA**

**SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT – PHASE II**

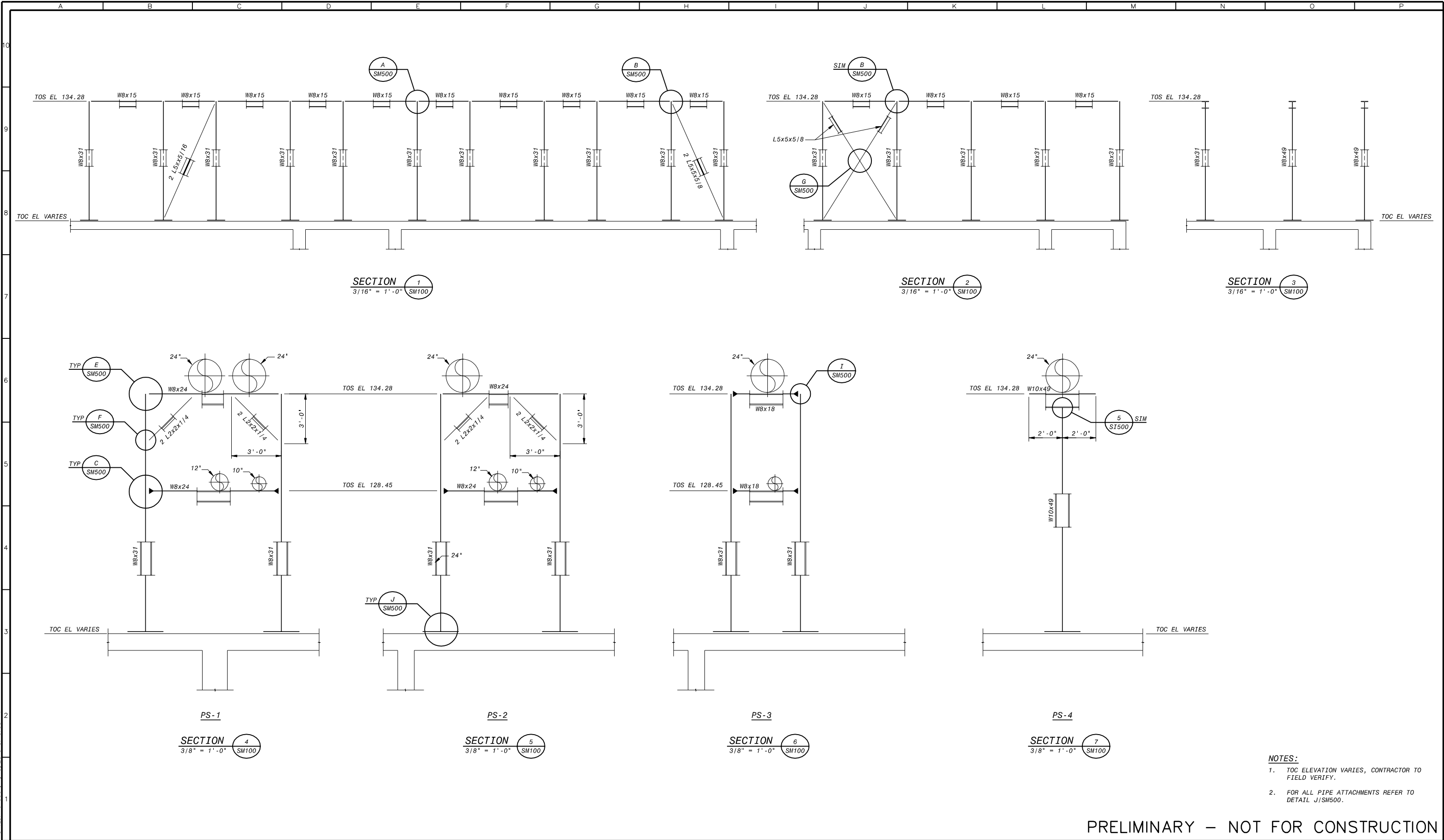
STRUCTURAL  
MEMBRANE FILTRATION FACILITY  
SECTIONS AND DETAIL

SCALE  
1/4"=1'-0"

DRAWING NUMBER  
**SM301**




SHEET NUMBER  
37 OF 236

PLOTFILE 1/13/2010 5:21:35 PM Batch Plot  
 Saved: 1/13/2010 5:10:03 PM  
 F0034202  
 B0034202

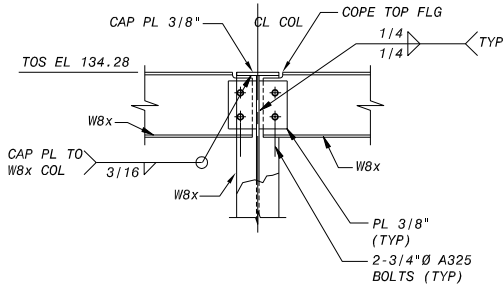


- NOTES:
1. TOC ELEVATION VARIES, CONTRACTOR TO FIELD VERIFY.
  2. FOR ALL PIPE ATTACHMENTS REFER TO DETAIL J/SM500.

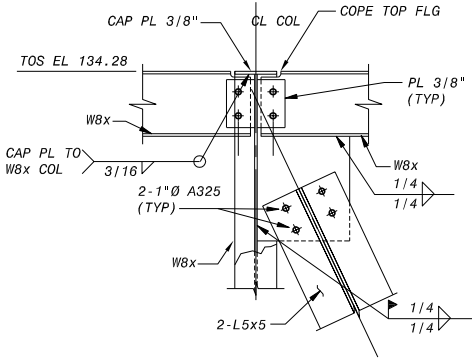
PRELIMINARY – NOT FOR CONSTRUCTION

 Building a world of difference			REVISIONS					LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)	FILE _____ DRAWN _____ JLK DESIGNED _____ CHECKED _____	CONTRACT NUMBER _____	SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT OF SACRAMENTO COUNTY, CALIFORNIA  SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT WATER RECLAMATION FACILITY EXPANSION PROJECT – PHASE II	STRUCTURAL  MEMBRANE FILTRATION FACILITY PIPE SUPPORT SECTIONS	SCALE AS NOTED
			ZONE	REV.	DESCRIPTION	BY	DATE						APP.
			A	50% SUBMITTAL		09/09							SHEET NUMBER 38 OF 236
			B	90% SUBMITTAL		11/09							
			C	100% SUBMITTAL		01/10							

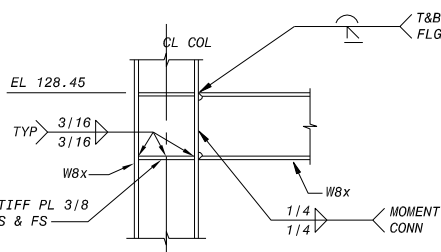
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 Saved: 1/13/2010 5:10:41 PM  
 F:\034202  
 B034202



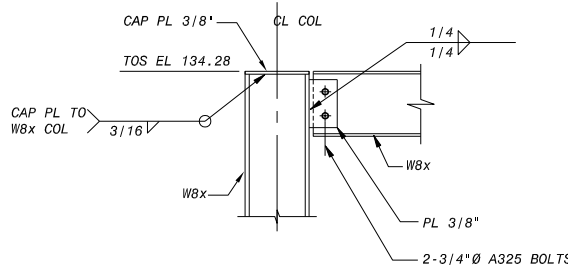
DETAIL A  
 1" = 1'-0" SM302



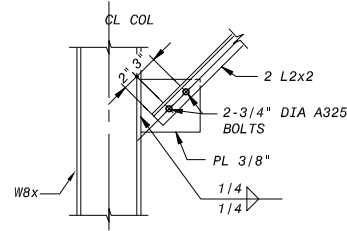
DETAIL B  
 1" = 1'-0" SM302



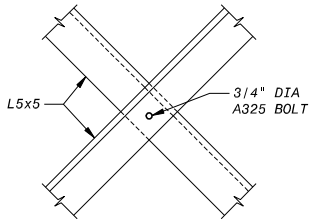
DETAIL C  
 1" = 1'-0" SM302



DETAIL E  
 1" = 1'-0" SM302

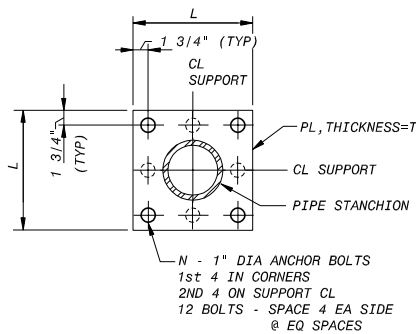


DETAIL F  
 1" = 1'-0" SM302

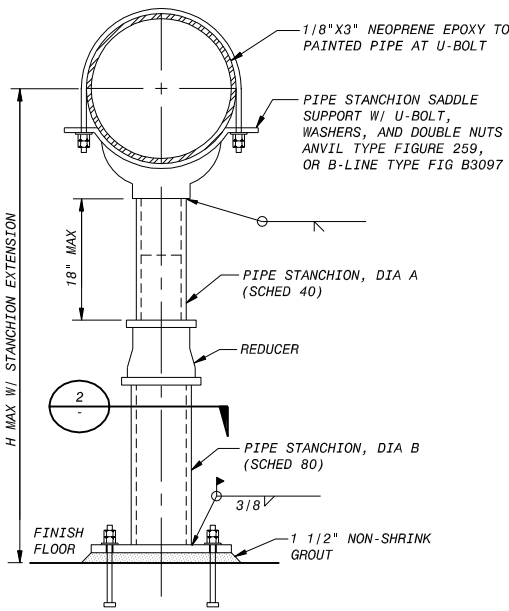


DETAIL G  
 1" = 1'-0" SM302

PIPE SIZE	A		B		H (FT)	BASE PL T x L	N	WELD
	ANVIL	B-LINE	ANVIL	B-LINE				
10	3	3	6	6	7'-0"	3/4x12	4	
12	3	3	6	6	7'-0"	3/4x12	4	
14	3	4	6	8	10'-0"	3/4x16	4	
16	3	4	6	8	10'-0"	3/4x16	4	
18	4	6	8	8	10'-0"	1x16	8	
20	4	6	8	8	8'-0"	1x16	8	
24	4	6	8	8	8'-0"	1 1/4x18	8	



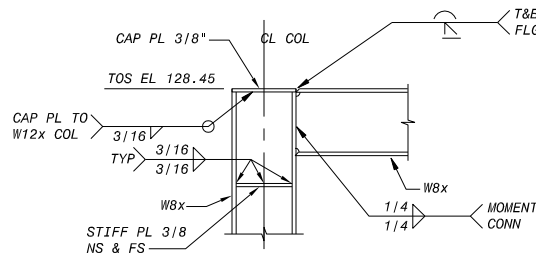
SECTION 2  
 NO SCALE



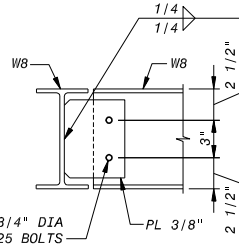
ELEVATION

NOTES:  
 1. INTERIOR SUPPORTS TO BE GALV STEEL.  
 EXTERIOR SUPPORTS TO BE SHOP PRIMED  
 AND FIELD PAINTED.

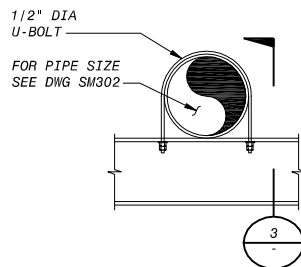
ADJUSTABLE PIPE SUPPORT H  
 NO SCALE SM300



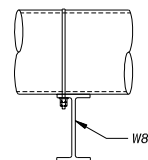
DETAIL I  
 1" = 1'-0" SM302



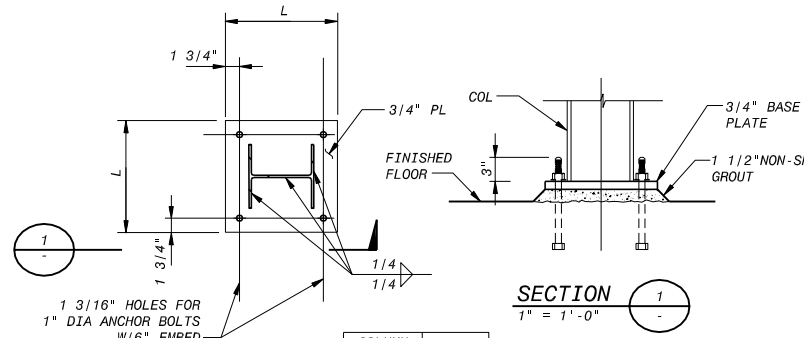
DETAIL K  
 NO SCALE SM100



DETAIL L  
 1" = 1'-0"



SECTION 3  
 1" = 1'-0"



SECTION 1  
 1" = 1'-0"

COLUMN SIZE	L
1 W8	1'-2"
2 W10	1'-4"

DETAIL J  
 1" = 1'-0" SM302, SI301

PRELIMINARY – NOT FOR CONSTRUCTION

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ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES  
 AT FULL SIZE  
 (IF NOT 2"-SCALE ACCORDINGLY)  
 FILE \_\_\_\_\_  
 DRAWN \_\_\_\_\_ JLK  
 DESIGNED \_\_\_\_\_  
 CHECKED \_\_\_\_\_

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
 SANITATION DISTRICT  
 OF SACRAMENTO COUNTY, CALIFORNIA  
 SACRAMENTO REGIONAL  
 WASTEWATER TREATMENT PLANT  
 WATER RECLAMATION FACILITY  
 EXPANSION PROJECT – PHASE II

STRUCTURAL  
 MEMBRANE FILTRATOION FACILITY  
 PIPE SUPPORT DETAILS

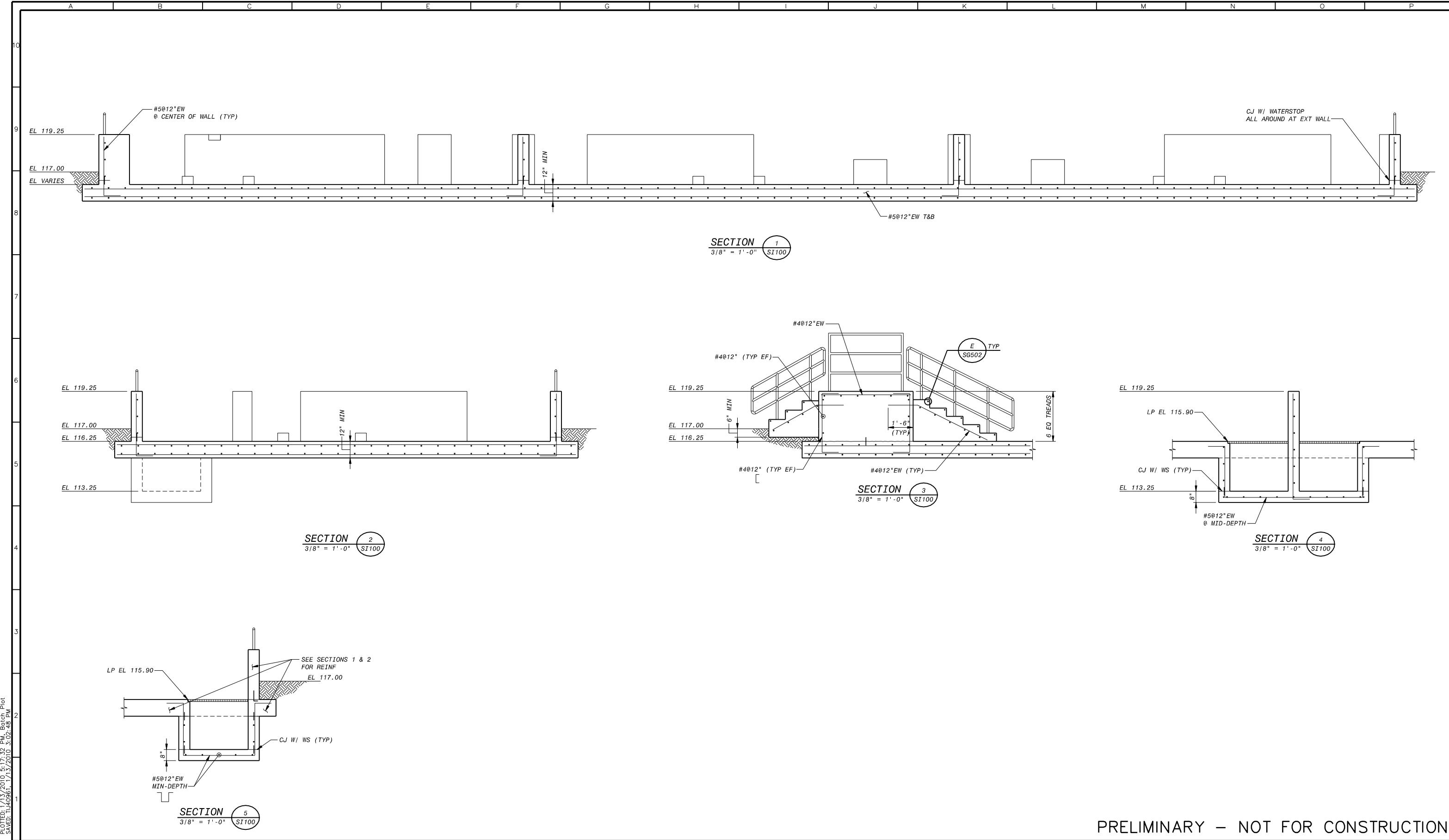
SCALE  
 AS NOTED

DRAWING NUMBER  
 SM500


SHEET NUMBER  
 39 OF 236









PRELIMINARY – NOT FOR CONSTRUCTION



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REVISIONS				
ZONE	REV.	DESCRIPTION	BY	DATE
	A	50% SUBMITTAL		09/09
	B	90% SUBMITTAL		11/09
	C	100% SUBMITTAL		01/10

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"-SCALE ACCORDINGLY)

FILE \_\_\_\_\_  
DRAWN GT, JMM  
DESIGNED SUP  
CHECKED \_\_\_\_\_

CONTRACT NUMBER \_\_\_\_\_

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT – PHASE II

STRUCTURAL  
CIP – NEUTRALIZATION SYSTEM  
SECTIONS

SCALE  
AS NOTED

DRAWING NUMBER  
**SI300**

SHEET NUMBER  
41 OF 236

PLotted 1/13/2010 5:17:32 PM Batch Plot  
Saved: 1/13/2010 5:02:48 PM  
F0034202  
B0034202

PLOT FILE: 1/13/2010, 5:17:57 PM, Batch Plot  
SAVE: 11/09/2011, 17:13:20, 3:33:13 PM

BBB-34202  
BBB-34202

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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"-SCALE ACCORDINGLY)

FILE \_\_\_\_\_  
DRAWN TVL  
DESIGNED \_\_\_\_\_  
CHECKED \_\_\_\_\_

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT - PHASE II

STRUCTURAL

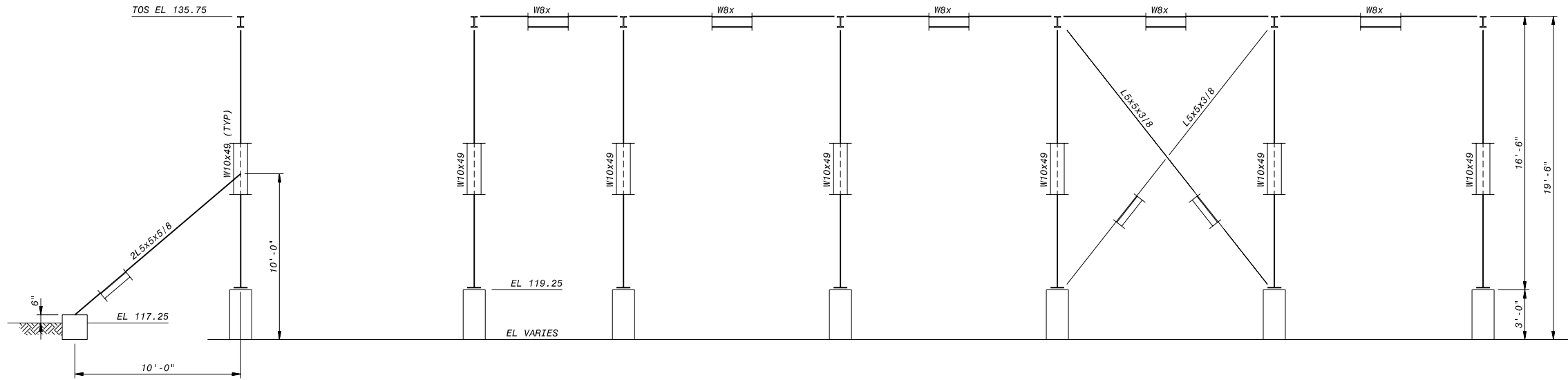
CIP NEUTRALIZATION SYSTEM  
PIPE SUPPORT  
SECTIONS

SCALE  
AS NOTED

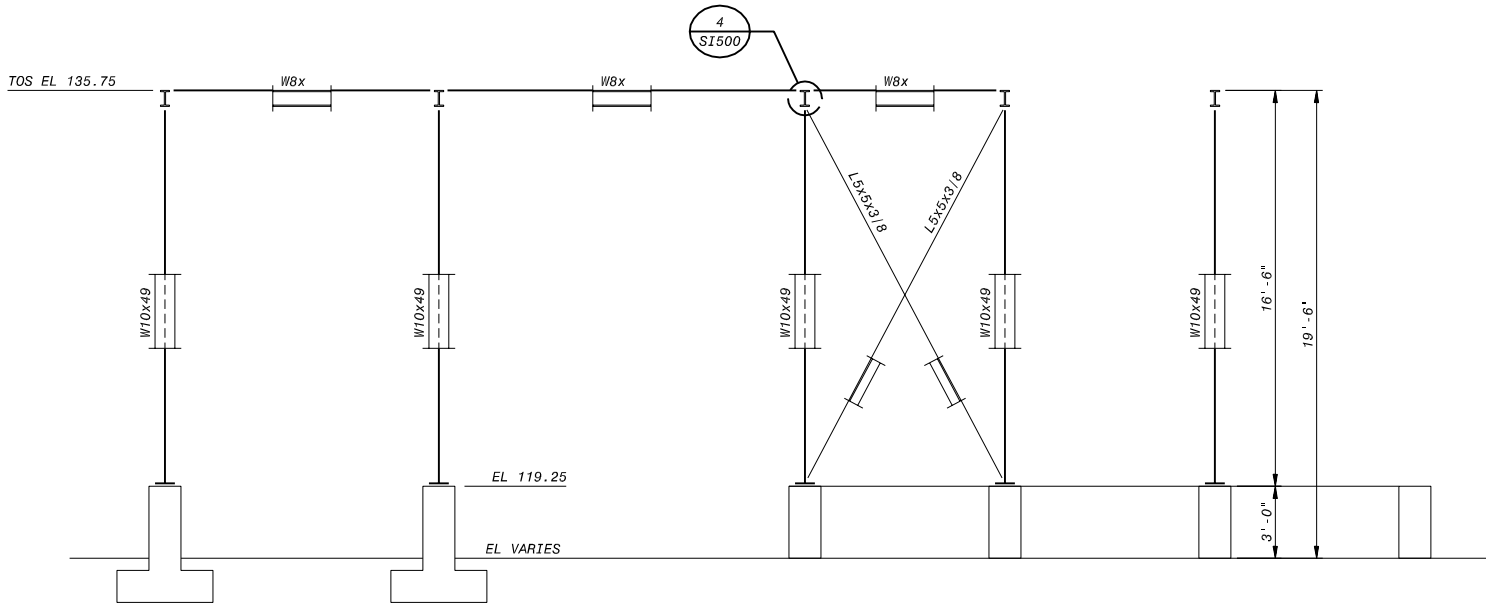
DRAWING NUMBER  
**SI301**

SHEET NUMBER  
42 OF 236

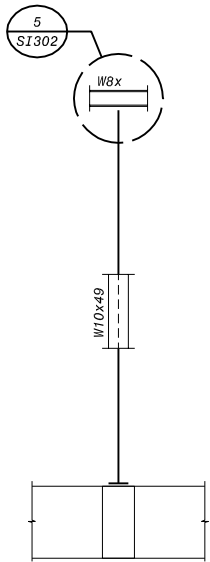
PRELIMINARY – NOT FOR CONSTRUCTION



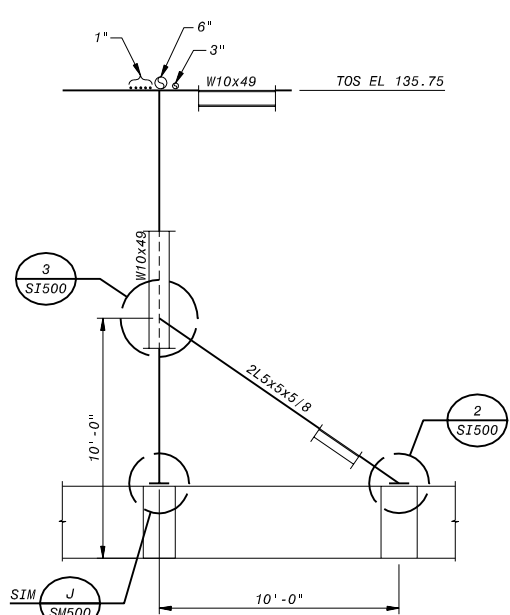
**SECTION 1**  
1/4" = 1'-0"  
(EAST-WEST FRAMING)



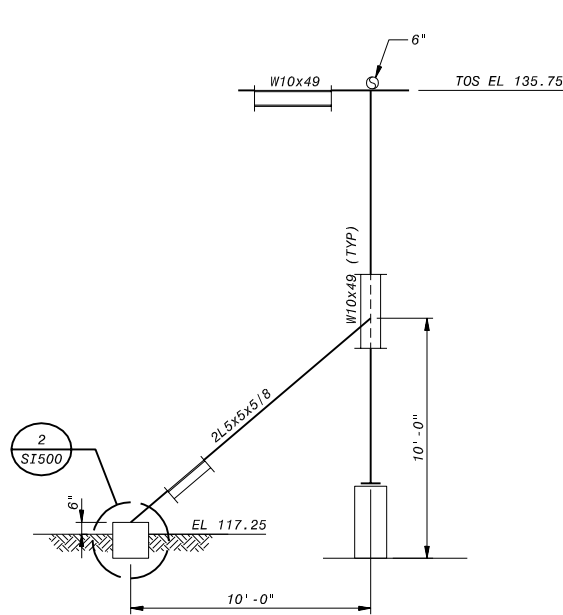
**SECTION 2**  
1/4" = 1'-0"  
(NORTH-SOUTH FRAMING)



**SECTION 3**  
1/4" = 1'-0"  
(ISOLATED SOUTH WEST SUPPORT)

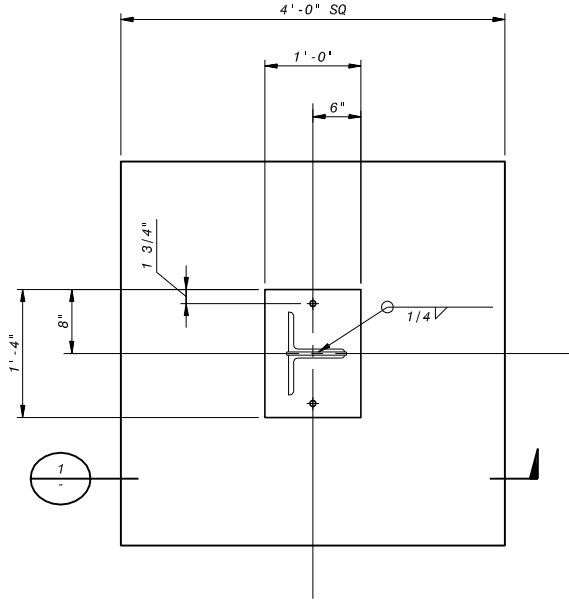


**SECTION 4**  
1/4" = 1'-0"

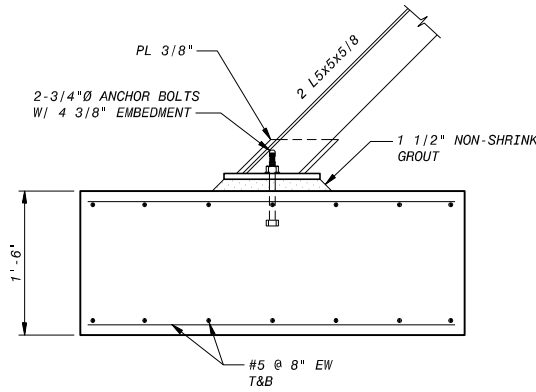


**SECTION 5**  
1/4" = 1'-0"

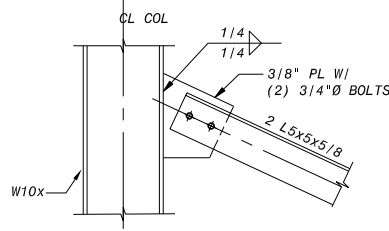
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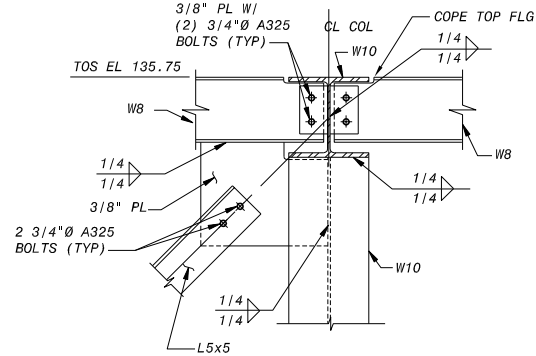
DETAIL A  
 1" = 1'-0" SI301



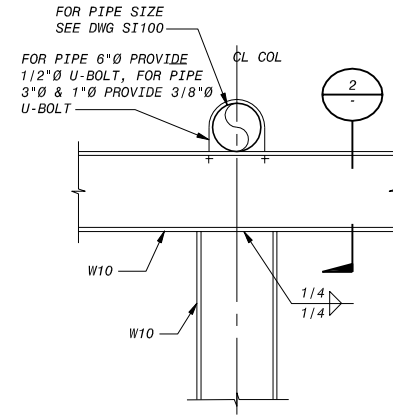
SECTION 1  
 1" = 1'-0"



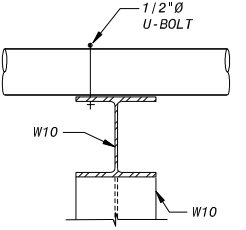
DETAIL B  
 1" = 1'-0" SM302



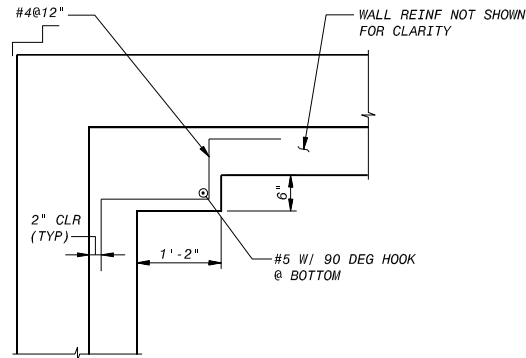
DETAIL C  
 1" = 1'-0" SI301



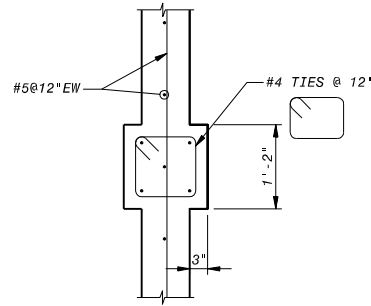
DETAIL D  
 1" = 1'-0" SI301



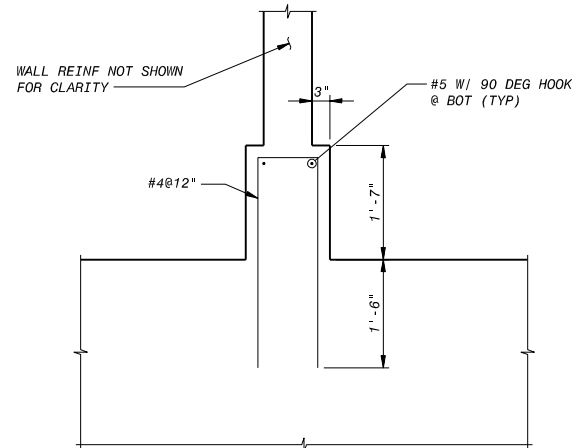
SECTION 2  
 1" = 1'-0"



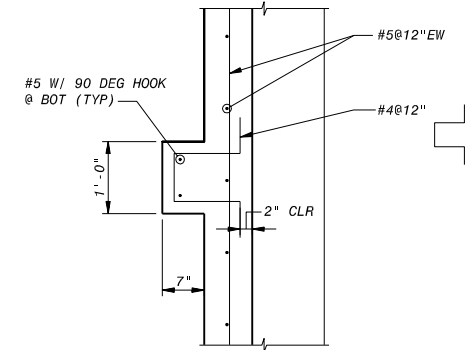
DETAIL E  
 3/4" = 1'-0" SI100



DETAIL E  
 3/4" = 1'-0" SI100



DETAIL E  
 3/4" = 1'-0" SI100



DETAIL E  
 3/4" = 1'-0" SI100

PRELIMINARY – NOT FOR CONSTRUCTION

BLACK & VEATCH  
 Building a world of difference



REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES  
 AT FULL SIZE  
 (IF NOT 2"-SCALE ACCORDINGLY)

FILE \_\_\_\_\_  
 DRAWN \_\_\_\_\_ JLK  
 DESIGNED \_\_\_\_\_  
 CHECKED \_\_\_\_\_

CONTRACT NUMBER \_\_\_\_\_

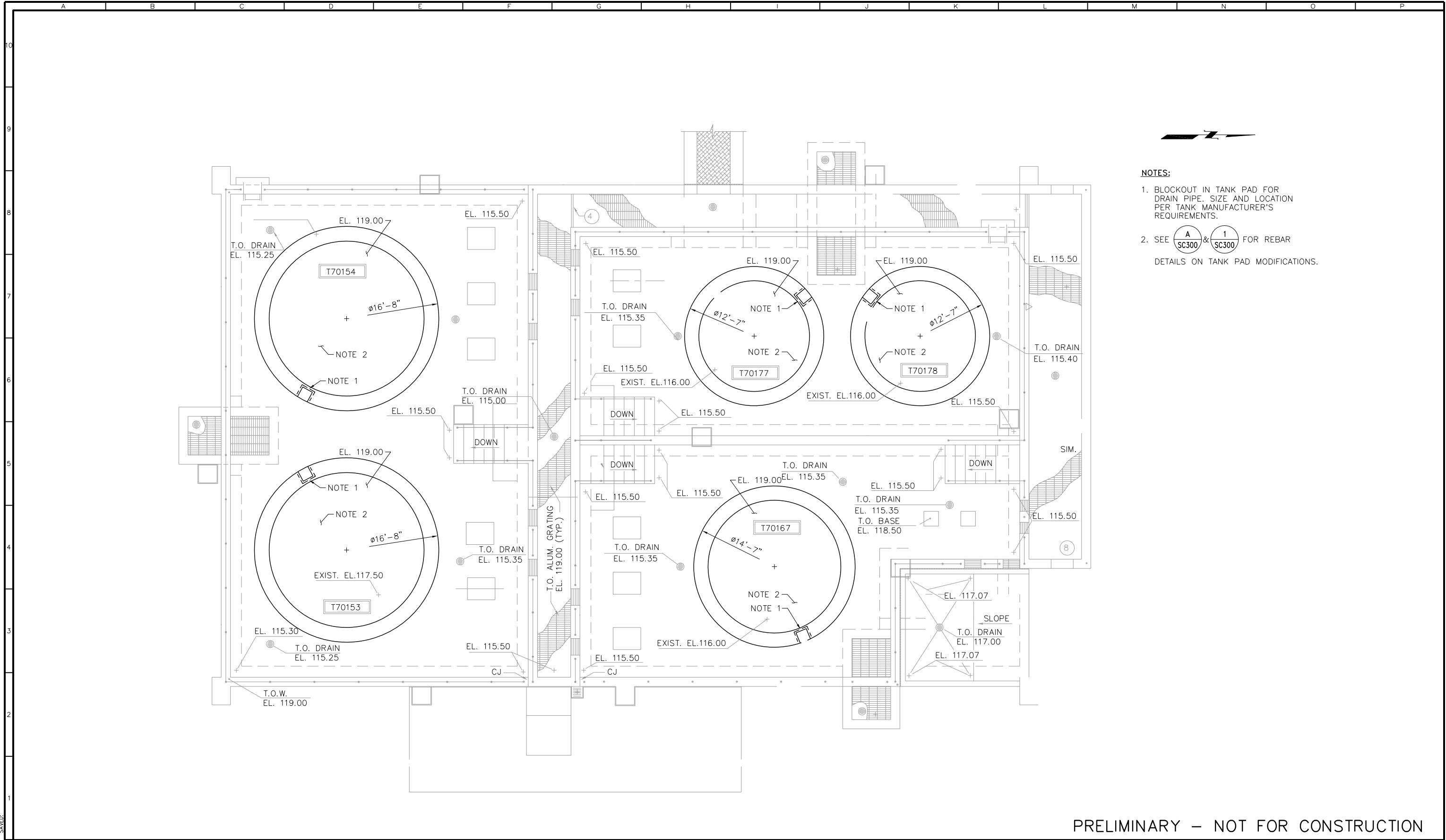
SACRAMENTO REGIONAL COUNTY  
 SANITATION DISTRICT  
 OF SACRAMENTO COUNTY, CALIFORNIA  
  
 SACRAMENTO REGIONAL  
 WASTEWATER TREATMENT PLANT  
 WATER RECLAMATION FACILITY  
 EXPANSION PROJECT – PHASE II

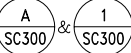
STRUCTURAL  
 CIP – NEUTRALIZATION SYSTEM  
 PIPE SUPPORT DETAILS

SCALE  
 AS NOTED

DRAWING NUMBER  
**SI500**

SHEET NUMBER  
 43 OF 236



- NOTES:
1. BLOCKOUT IN TANK PAD FOR DRAIN PIPE. SIZE AND LOCATION PER TANK MANUFACTURER'S REQUIREMENTS.
  2. SEE  FOR REBAR DETAILS ON TANK PAD MODIFICATIONS.

PRELIMINARY – NOT FOR CONSTRUCTION

FILED: 2/2/2022  
PLOT: 2/2/2022



REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"=SCALE ACCORDINGLY)	
FILE	FILE NAME
DRAWN	JM
DESIGNED	JM
CHECKED	DW/LZ

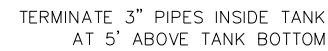
TBD
CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT OF SACRAMENTO COUNTY, CALIFORNIA
SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT WATER RECLAMATION FACILITY

CIVIL
CHEMICAL TANK FOUNDATION

SCALE 1/4"=1'
DRAWING NUMBER SC100
SHEET NUMBER 44 OF 236

1. ALL EPOXY DOWELS SHALL BE EMBEDDED 6" MIN. INTO EXISTING FOUNDATION.
2. USE CLASS A3 CONCRETE PER SPEC. 03300.



TANK ID	BLOCKOUT SIZE LxWxH
T70153 SCLS	15.5" x 17" x 6"
T70154 NAOH	28.0" x 17" x 6"
T70167 SBIS	15.5" x 17" x 6"
T70177 CTA	15.5" x 17" x 6"
T70178 ALM	15.5" x 17" x 6"

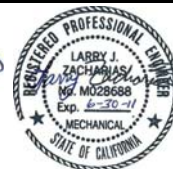


**NOTES:**

1. SEE DWGS. MC100 AND MC101 FOR FITTINGS LOCATIONS.
2. PROVIDE CHEMICAL HAZARD LABEL PER NFPA 704.
3. SEISMIC RESTRAINT SYSTEM TO BE DESIGNED BY TANK MANUFACTURER. ANCHORING CLIPS TO BE INSTALLED 3" FROM TANK WALL.

3. SEISMIC RESTRAINT SYSTEM TO BE DESIGNED BY TANK MANUFACTURER. ANCHORING CLIPS TO BE INSTALLED 3" FROM TANK WALL.

PRELIMINARY – NOT FOR CONSTRUCTION

[illegible]

FILE FILE NAME  
DRAWN JM  
DESIGNED JM  
CHECKED DW/LZ

TBD

---

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY

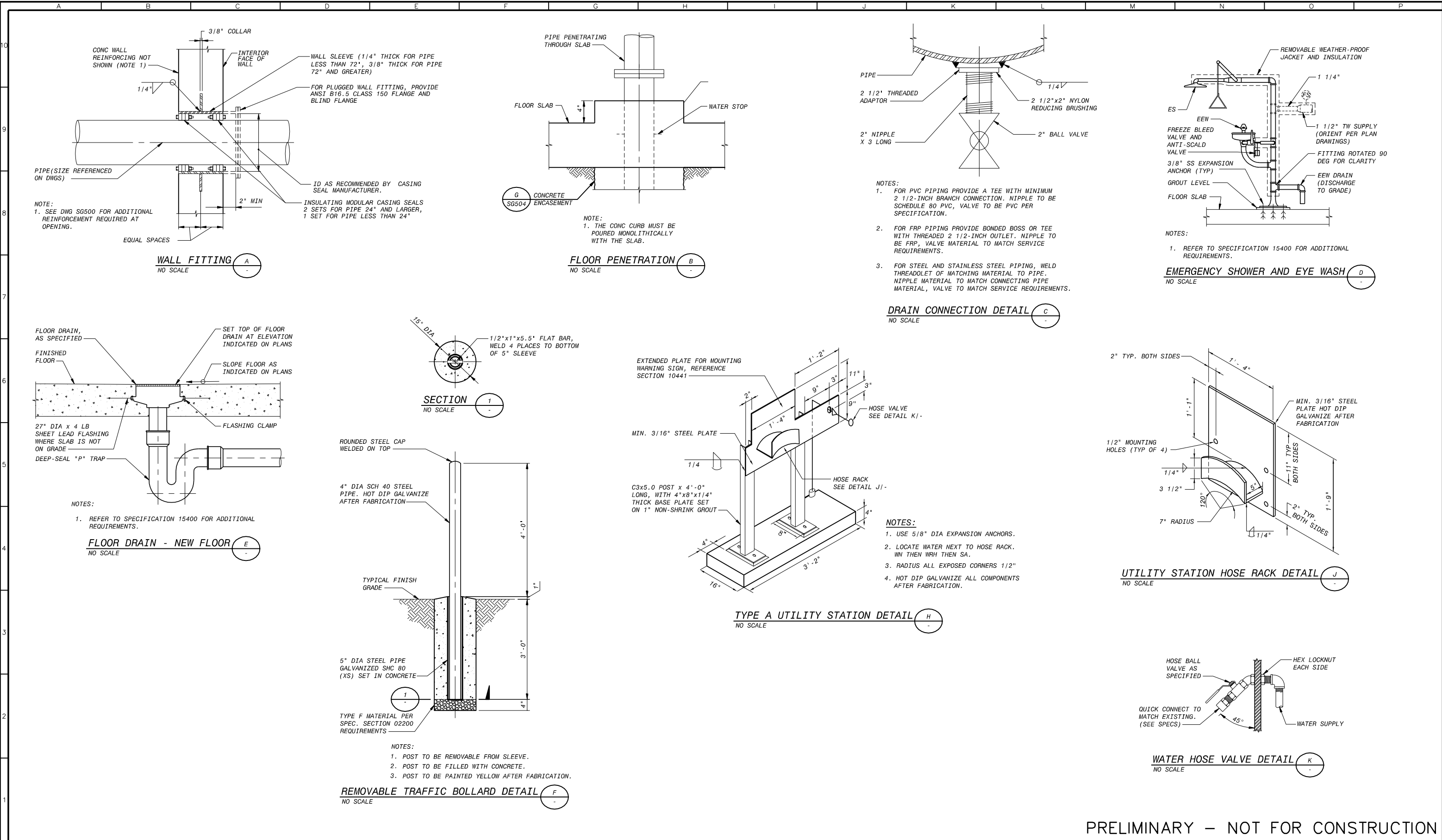
CIVIL  
TANK MODIFICATION DETAILS

SHEET NUMBER  
-5 OF 236

PLOTTED:  
SAVED.

80R3422D2

PLOTTED: 1/13/2010 6:20:24 PM, Batch Plot  
 SAVED:



PRELIMINARY – NOT FOR CONSTRUCTION

**BLACK & VEATCH**  
Building a world of difference

**SRCSD**

ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)

FILE \_\_\_\_\_

DRAWN \_\_\_\_\_

DESIGNED \_\_\_\_\_

CHECKED \_\_\_\_\_

CONTRACT NUMBER \_\_\_\_\_

**SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT OF SACRAMENTO COUNTY, CALIFORNIA**

**SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT WATER RECLAMATION FACILITY EXPANSION PROJECT - PHASE II**

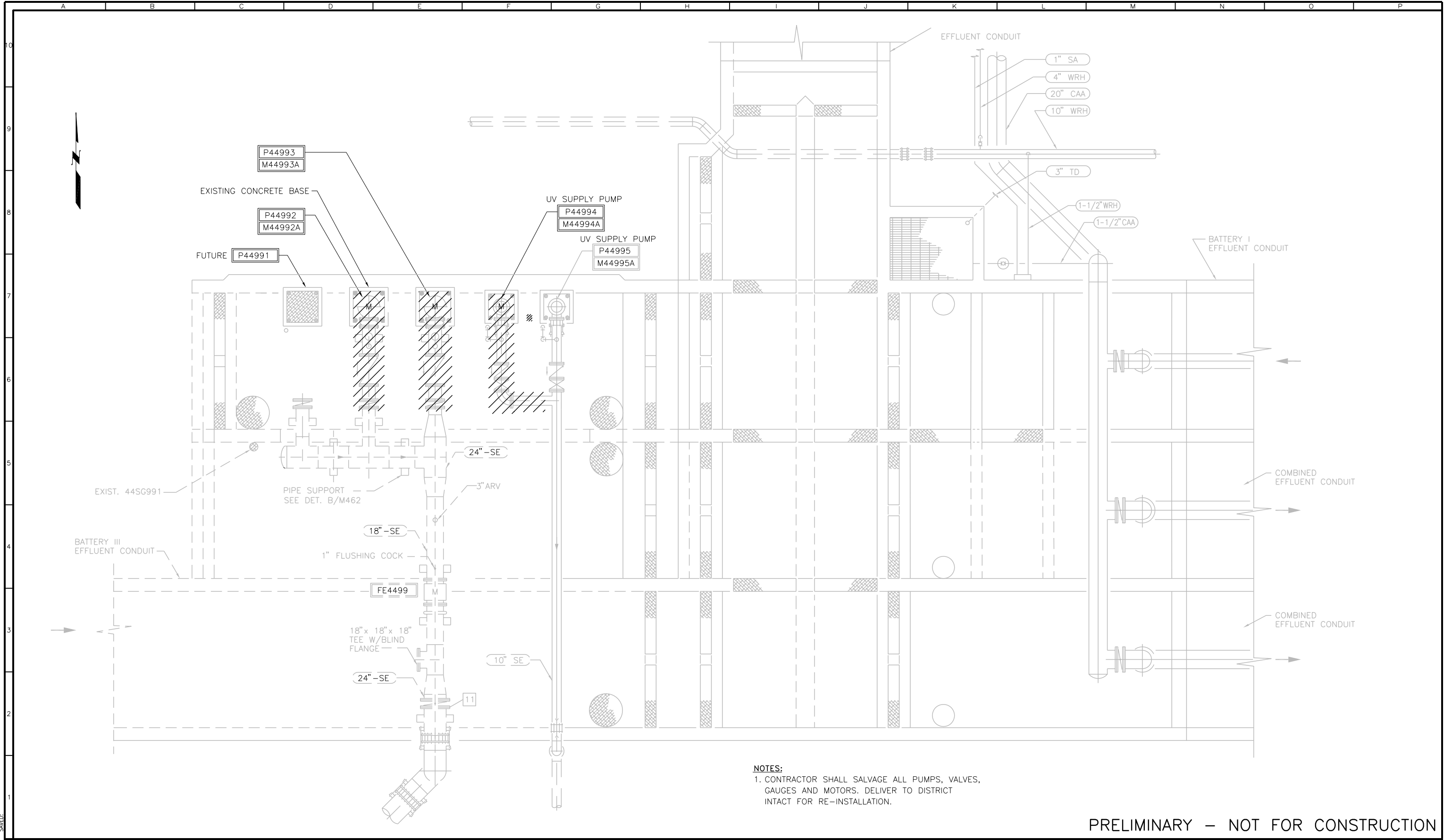
**MECHANICAL**

**STANDARD AND MISCELLANEOUS DETAILS**

SCALE AS NOTED

DRAWING NUMBER **MG500**

SHEET NUMBER 46 OF 236



**NOTES:**  
1. CONTRACTOR SHALL SALVAGE ALL PUMPS, VALVES, GAUGES AND MOTORS. DELIVER TO DISTRICT INTACT FOR RE-INSTALLATION.

PRELIMINARY – NOT FOR CONSTRUCTION

**BLACK & VEATCH**  
Building a world of difference

**SRCS D**

REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2" - SCALE ACCORDINGLY)

FILE **FILE NAME**

DRAWN **DB**

DESIGNED **DB/LZ**

CHECKED **DW/LZ**

**TBD**

CONTRACT NUMBER

**SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT**  
OF SACRAMENTO COUNTY, CALIFORNIA

**SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT**  
WATER RECLAMATION FACILITY

MECHANICAL

**FILTER FEED PUMP STATION**  
DEMOLITION PLAN

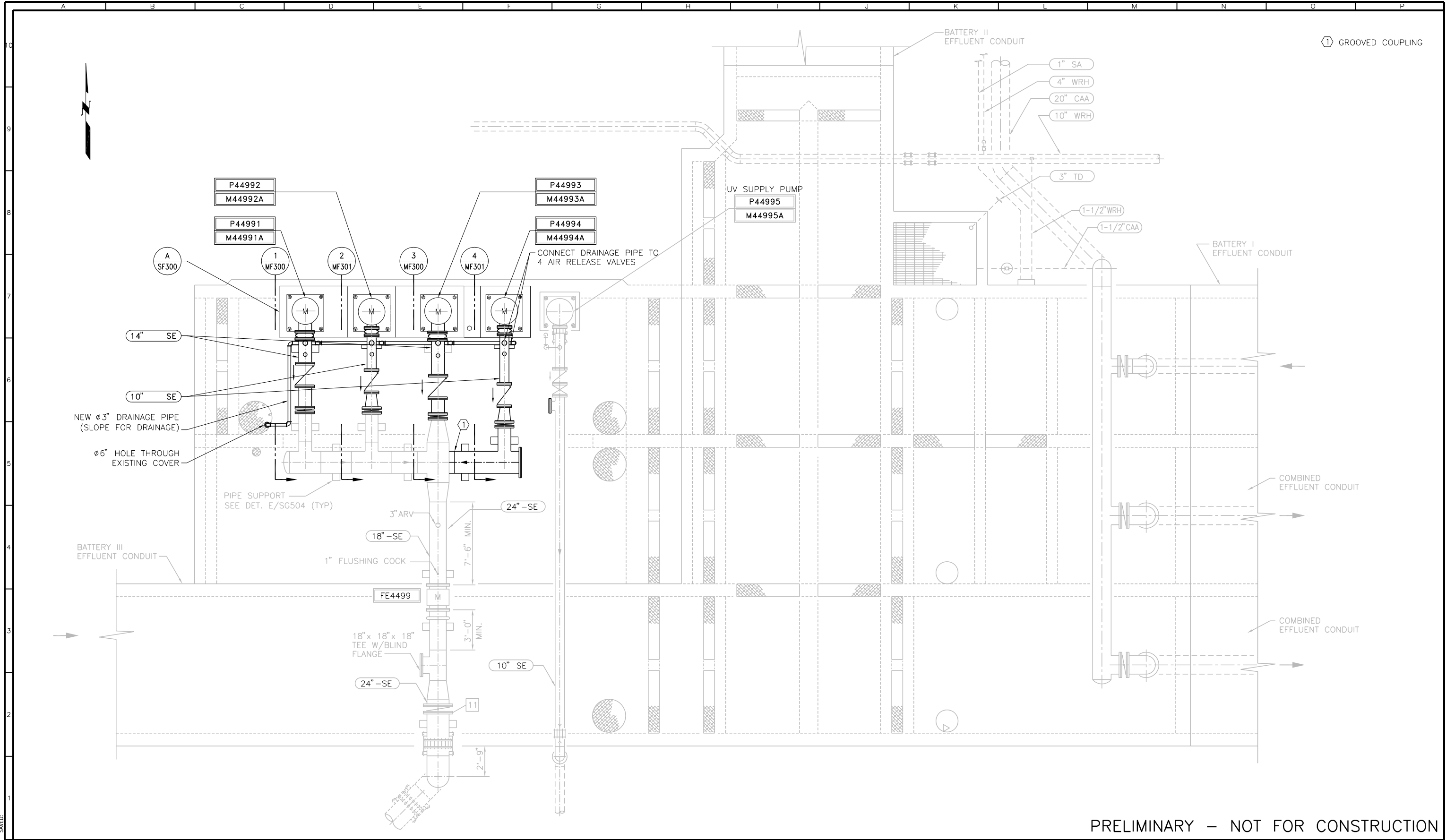
SCALE  
1/4" = 1'

DRAWING NUMBER  
**MF001**

SHEET NUMBER  
47 OF 236

FB0342202  
PLOTED:  
DATE: 12/22/2022





PRELIMINARY – NOT FOR CONSTRUCTION

BLACK & VEATCH  
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SRCS D

REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2" - SCALE ACCORDINGLY)

FILE FILE NAME

DRAWN DB

DESIGNED DB/LZ

CHECKED DW/LZ

TBD

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY

MECHANICAL

FILTER FEED PUMP STATION  
PLAN

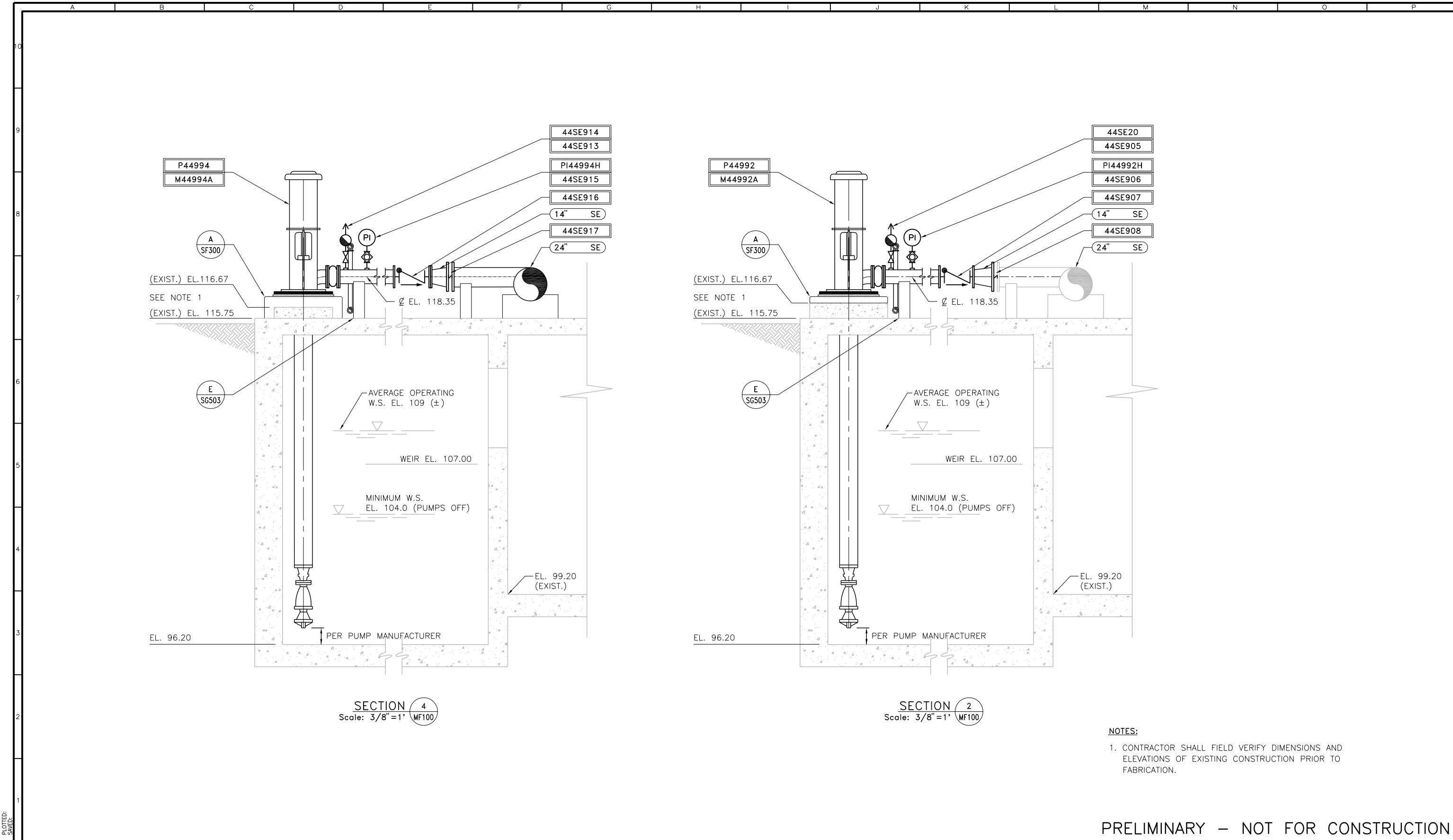
SCALE  
1/4" = 1'

DRAWING NUMBER  
**MF100**

SHEET NUMBER  
48 OF 236



FB0342202  
SUB 342202

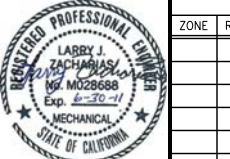





- NOTES:
1. CONTRACTOR SHALL FIELD VERIFY DIMENSIONS AND ELEVATIONS OF EXISTING CONSTRUCTION PRIOR TO FABRICATION.

PRELIMINARY – NOT FOR CONSTRUCTION





REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2" - SCALE ACCORDINGLY)

FILE	FILE NAME
DRAWN	DB
DESIGNED	DB/LZ
CHECKED	DB/LZ

TBD

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY

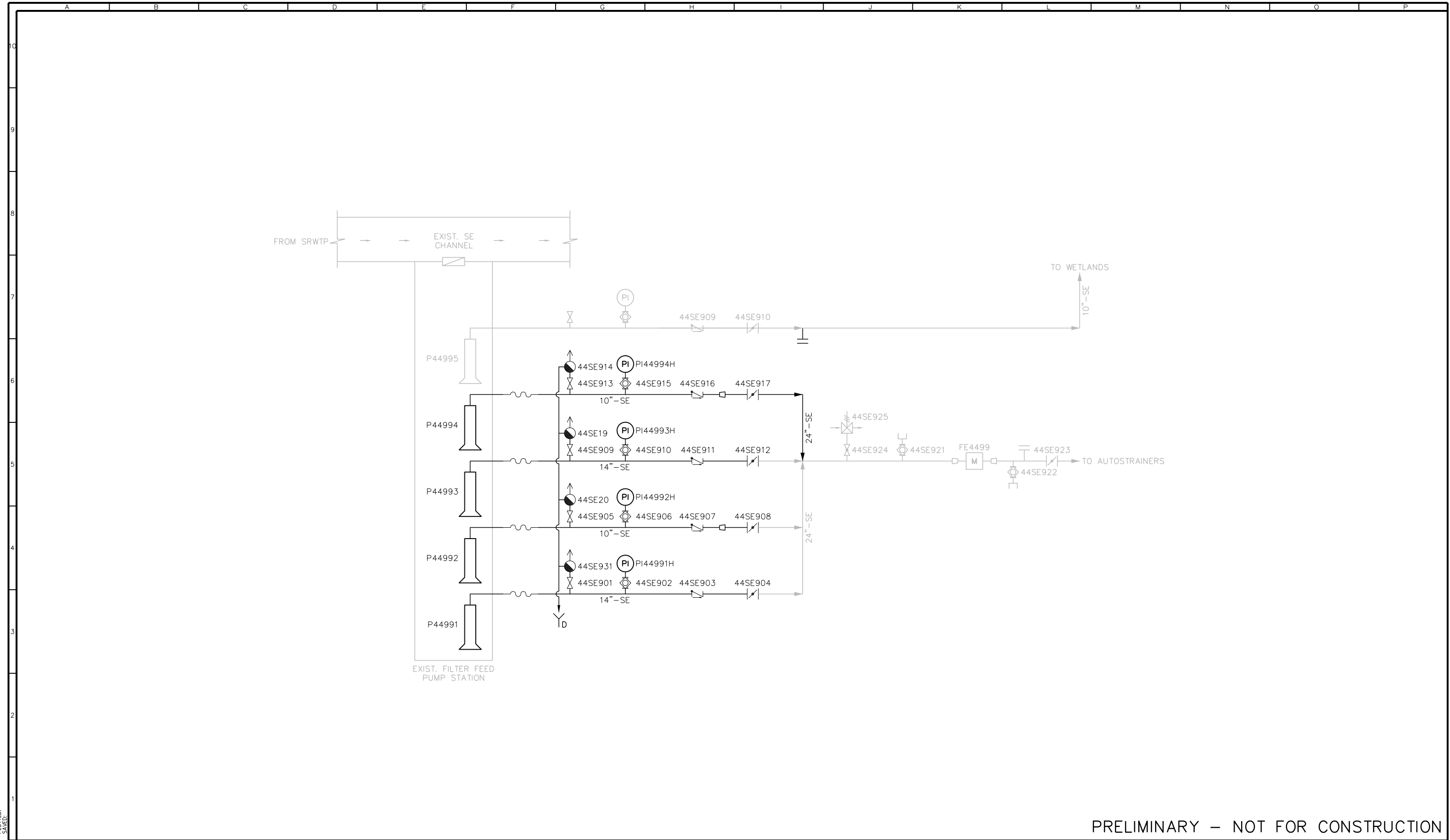
MECHANICAL

FILTER FEED PUMP STATION  
10" PIPE SECTION

SCALE  
3/8" = 1'

DRAWING NUMBER  
**MF301**

SHEET NUMBER  
50 OF 236



PRELIMINARY – NOT FOR CONSTRUCTION

FB06342202  
B06342202  
PLOTTED:  
SAVED:



REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)	
FILE	FILE NAME
DRAWN	DB
DESIGNED	DB/LZ
CHECKED	DW/LZ

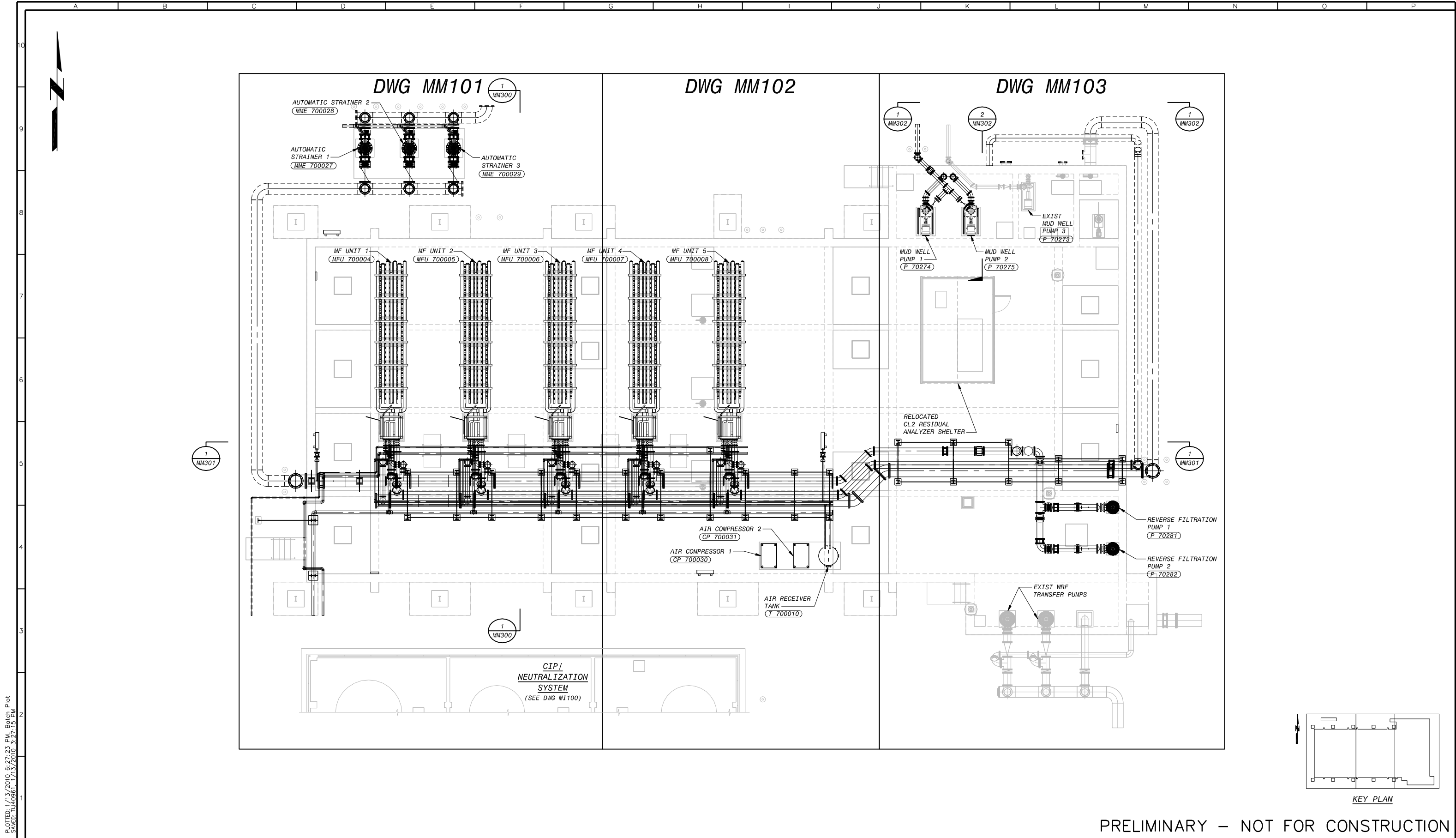
TBD
CONTRACT NUMBER

SACRAMENTO REGIONAL SANITATION DISTRICT OF SACRAMENTO COUNTY, CALIFORNIA
SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT WATER RECLAMATION FACILITY

FILTER FEED PUMP STATION
--------------------------

SCALE NO SCALE
DRAWING NUMBER MF500
SHEET NUMBER 51 OF 236

PLOTFILE 1/13/2010 8:27:33 PM Batch Plot  
 SAVED: 11/09/2011 17:13:20 E:\2713 DWG



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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"=SCALE ACCORDINGLY)	
FILE	
DRAWN	GT
DESIGNED	AYA
CHECKED	

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT – PHASE II

MECHANICAL  
MEMBRANE FILTRATION FACILITY  
OVERALL PLAN

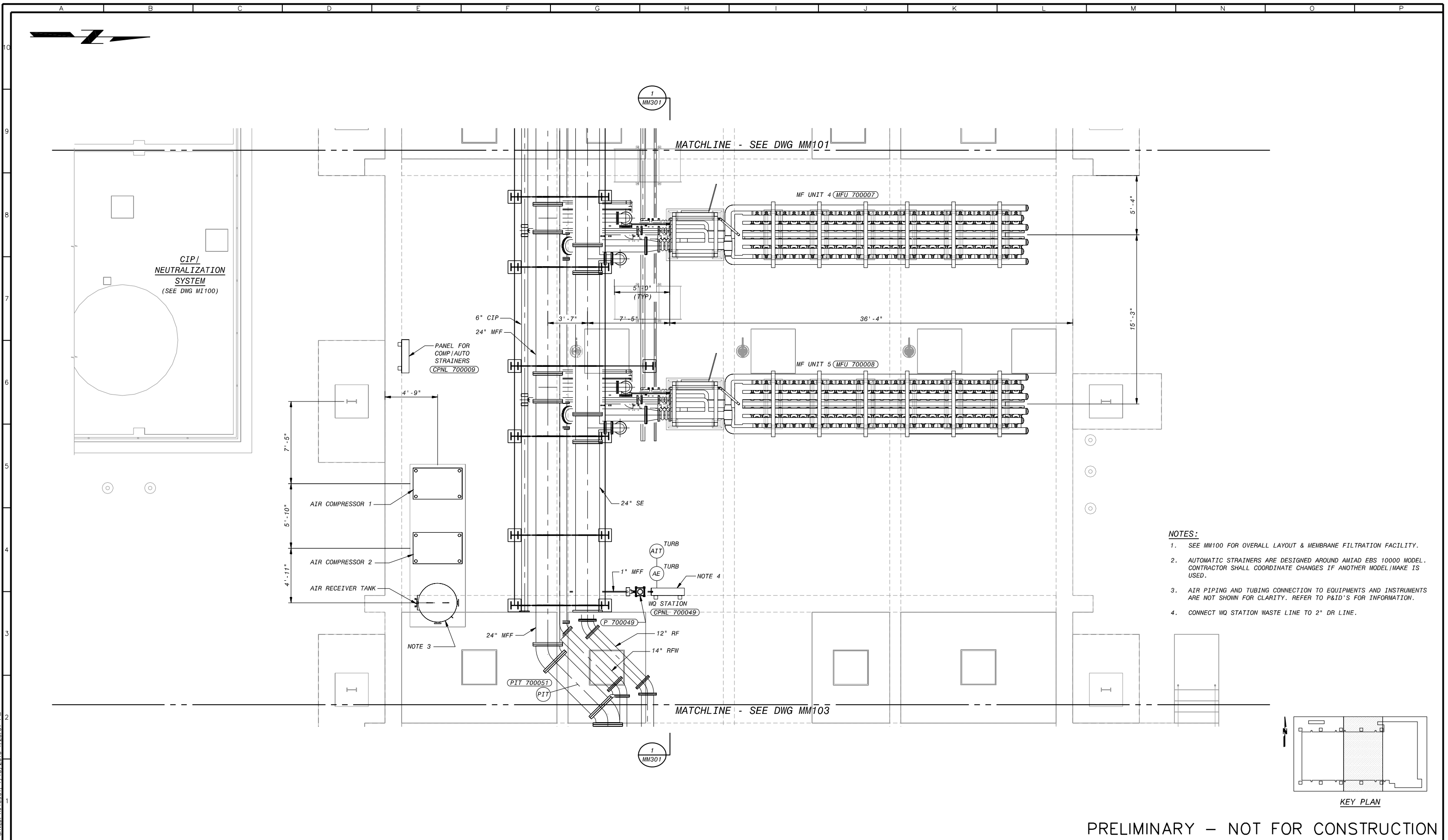
SCALE  
1/8"=1'-0"

DRAWING NUMBER  
**MM100**

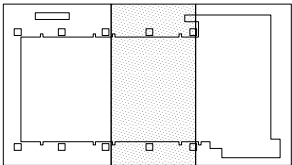
SHEET NUMBER  
52 OF 236



PLOTTED: T:\40961\_1\15/2010\_1:24:01 PM  
 SAVED: T:\40961\_1\15/2010\_1:23:57 PM  
 F:\B342202  
 BDR342202






- NOTES:
- SEE MM100 FOR OVERALL LAYOUT & MEMBRANE FILTRATION FACILITY.
  - AUTOMATIC STRAINERS ARE DESIGNED AROUND AMIAD EBS 10000 MODEL. CONTRACTOR SHALL COORDINATE CHANGES IF ANOTHER MODEL/MAKE IS USED.
  - AIR PIPING AND TUBING CONNECTION TO EQUIPMENTS AND INSTRUMENTS ARE NOT SHOWN FOR CLARITY. REFER TO P&ID'S FOR INFORMATION.
  - CONNECT WQ STATION WASTE LINE TO 2" DR LINE.



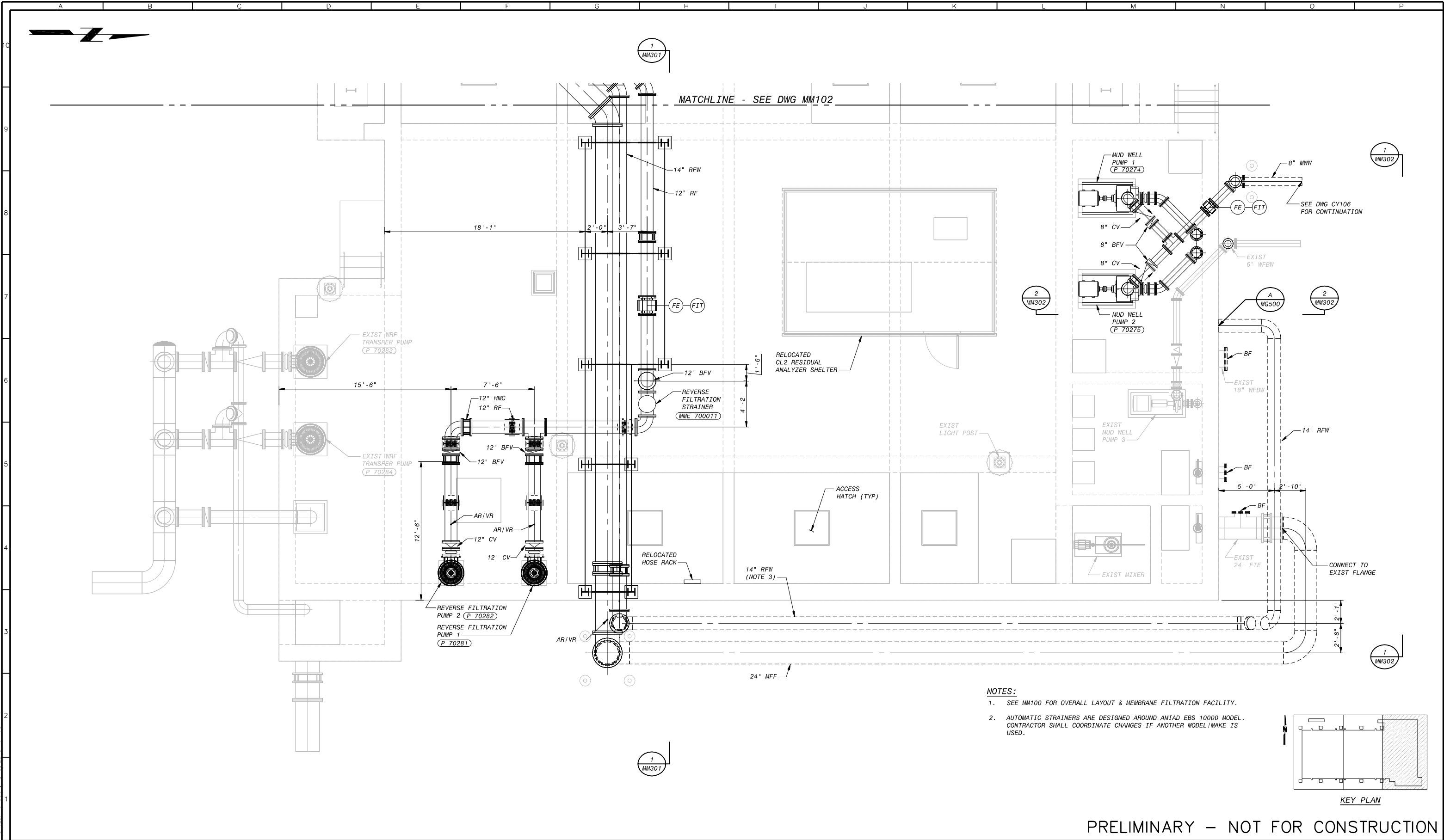
KEY PLAN

PRELIMINARY – NOT FOR CONSTRUCTION

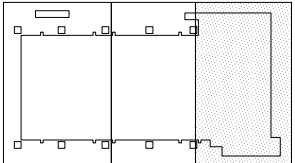
 Building a world of difference	 REGISTERED PROFESSIONAL ENGINEER DANIEL C. LOPEZ No. C 63910 Exp. 9/30/10 CIVIL STATE OF CALIFORNIA	 REGISTERED PROFESSIONAL ENGINEER DANIEL C. LOPEZ No. C 054330 Exp. 12/31/11 CIVIL STATE OF CALIFORNIA	<table><tr><th>ZONE</th><th>REV.</th><th>DESCRIPTION</th><th>BY</th><th>DATE</th><th>APP.</th></tr><tr><td>A</td><td>50% SUBMITTAL</td><td></td><td></td><td>09/09</td><td></td></tr><tr><td>B</td><td>90% SUBMITTAL</td><td></td><td></td><td>11/09</td><td></td></tr><tr><td>C</td><td>100% SUBMITTAL</td><td></td><td></td><td>01/10</td><td></td></tr></table>	ZONE	REV.	DESCRIPTION	BY	DATE	APP.	A	50% SUBMITTAL			09/09		B	90% SUBMITTAL			11/09		C	100% SUBMITTAL			01/10		<p>LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)</p> <p>FILE _____ DRAWN _____ GT DESIGNED _____ AYA CHECKED _____</p> <p>CONTRACT NUMBER _____</p>	<p>SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT OF SACRAMENTO COUNTY, CALIFORNIA</p> <p>SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT WATER RECLAMATION FACILITY EXPANSION PROJECT – PHASE II</p>	<p>MECHANICAL MEMBRANE FILTRATION FACILITY PLAN SHEET 2 OF 3</p>	<p>SCALE 1/4"=1'-0"</p> <p>DRAWING NUMBER <b>MM102</b></p> <p>SHEET NUMBER 54 OF 236</p>
ZONE	REV.	DESCRIPTION	BY	DATE	APP.																										
A	50% SUBMITTAL			09/09																											
B	90% SUBMITTAL			11/09																											
C	100% SUBMITTAL			01/10																											

PLOT: 1/13/2010 7:21:24 PM B5141 Plot  
 Saved: 1/13/2010 1:14:37 PM

F0034202  
 B0034202



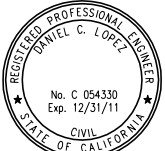
- NOTES:
- SEE MM100 FOR OVERALL LAYOUT & MEMBRANE FILTRATION FACILITY.
  - AUTOMATIC STRAINERS ARE DESIGNED AROUND AMIAD EBS 10000 MODEL. CONTRACTOR SHALL COORDINATE CHANGES IF ANOTHER MODEL/MAKE IS USED.



KEY PLAN

PRELIMINARY – NOT FOR CONSTRUCTION

**BLACK & VEATCH**  
 Building a world of difference



REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES  
 AT FULL SIZE  
 (IF NOT 2"=SCALE ACCORDINGLY)

FILE \_\_\_\_\_  
 DRAWN \_\_\_\_\_ GT  
 DESIGNED \_\_\_\_\_ AYA  
 CHECKED \_\_\_\_\_

CONTRACT NUMBER

SACRAMENTO REGIONAL  
 SANITATION DISTRICT  
 OF SACRAMENTO COUNTY, CALIFORNIA

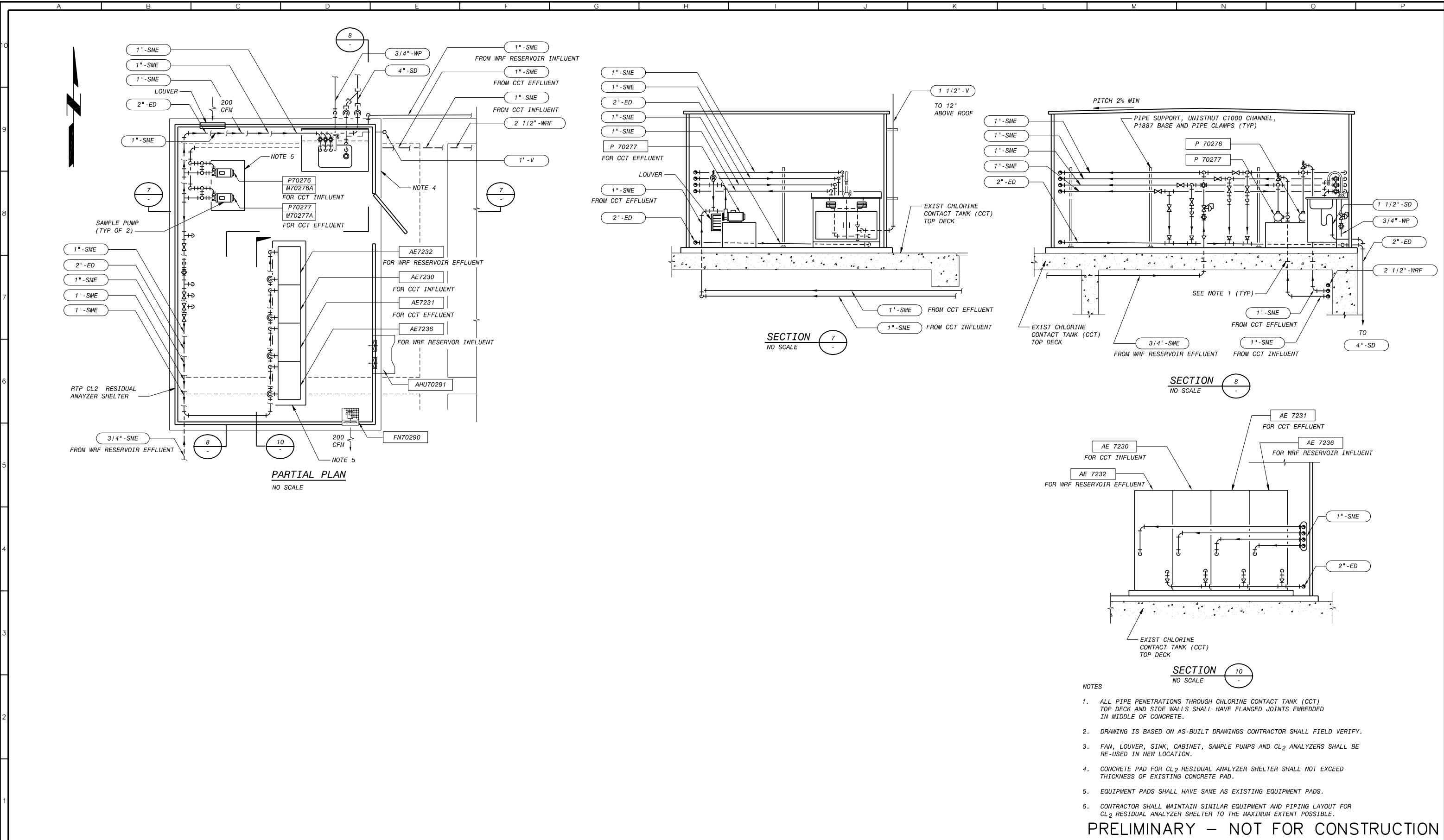
SACRAMENTO REGIONAL  
 WASTEWATER TREATMENT PLANT  
 WATER RECLAMATION FACILITY  
 EXPANSION PROJECT – PHASE II

MECHANICAL  
 MEMBRANE FILTRATION FACILITY  
 PLAN  
 SHEET 3 OF 3

SCALE  
 1/4"=1'-0"  
 DRAWING NUMBER  
**MM103**  
 SHEET NUMBER  
 55 OF 236



PLOTTER: 1/13/2010, 7:29:05 PM, Batch Plot  
 SAVED: 1/13/2010, 4:15:06 PM



PRELIMINARY – NOT FOR CONSTRUCTION

**BLACK & VEATCH**  
Building a world of difference



REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)
FILE _____
DRAWN _____ JLK
DESIGNED _____ MT
CHECKED _____

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT – PHASE II

MECHANICAL

EXISTING CHLORINE CONTACT  
TANK EQUIPMENT SHELTER  
PLAN AND SECTIONS

SCALE

AS NOTED

DRAWING NUMBER


**MM104**

SHEET NUMBER


56 OF 236





PRELIMINARY – NOT FOR CONSTRUCTION



**BLACK & VEATCH**  
Building a world of difference





REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"-SCALE ACCORDINGLY)

FILE \_\_\_\_\_  
DRAWN JKL  
DESIGNED MT  
CHECKED \_\_\_\_\_

CONTRACT NUMBER \_\_\_\_\_

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT – PHASE II

MECHANICAL

EXISTING CHLORINE CONTACT  
TANK EQUIPMENT SHELTER  
DETAILS

SCALE  
AS NOTED

DRAWING NUMBER  
**MM105**

SHEET NUMBER  
57 OF 236

PLOTTED: 1/13/2010, 7:20:31 PM, Batch Plot  
SAVE: 1/13/2010, 4:15:33 PM  
F0034202  
B0034202



A B C D E F G H I J K L M N O P

10

9

8

7

6

5

4

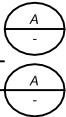
3

2

1



NORTH WALL OF CL<sub>2</sub> RESIDUAL ANALYZER  
SHELTER DETAIL  
NO SCALE



NORTH CCT DETAIL  
NO SCALE



PRELIMINARY – NOT FOR CONSTRUCTION

Plotted: 1/13/2010, 7:23:04 PM, Batch Plot  
Saved: 1/13/2010, 11:09:51 AM, 17/13/2010 11:09:51 AM



REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"=SCALE ACCORDINGLY)

FILE \_\_\_\_\_  
DRAWN \_\_\_\_\_ JLK  
DESIGNED \_\_\_\_\_ MT  
CHECKED \_\_\_\_\_

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT – PHASE II

MECHANICAL

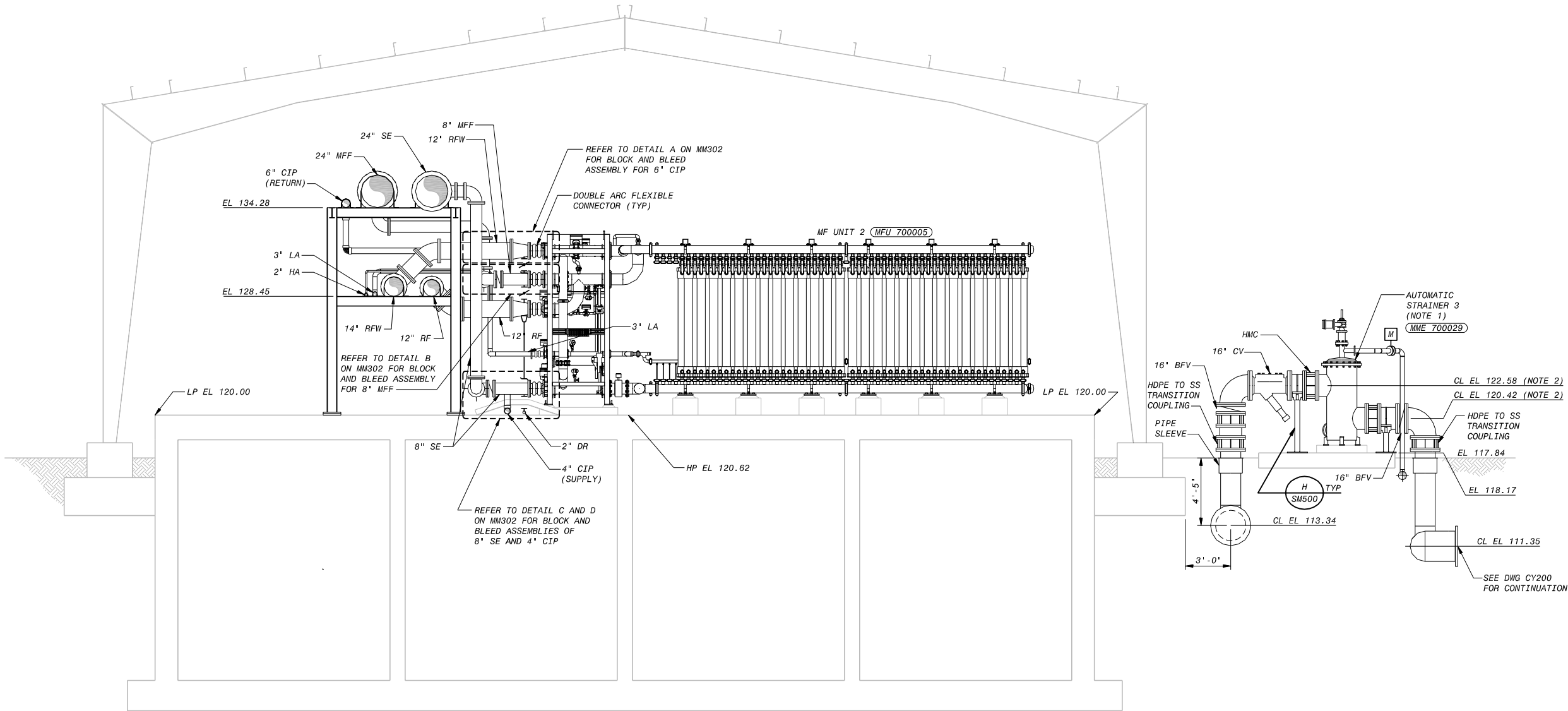
EXISTING CHLORINE CONTACT  
TANK EQUIPMENT SHELTER  
DETAILS

SCALE  
AS NOTED

DRAWING NUMBER  
**MM106**

SHEET NUMBER  
58 OF 236

PLOTTED 1/13/2010 7:23:43 PM Batch Plot  
 SAVED: 1/13/2010 7:23:43 PM  
 F0034202  
 B0034202



NOTES:

1. AUTOMATIC STRAINERS ARE DESIGNED AROUND AMIAD EBS 10000 MODEL. CONTRACTOR SHALL COORDINATE CHANGES IF ANOTHER MODEL/MAKE ISSUED.

PRELIMINARY – NOT FOR CONSTRUCTION



REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"-SCALE ACCORDINGLY)

FILE \_\_\_\_\_  
DRAWN \_\_\_\_\_ GT  
DESIGNED \_\_\_\_\_ AYA  
CHECKED \_\_\_\_\_

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT – PHASE II

MECHANICAL

MEMBRANE FILTRATION FACILITY  
SECTION

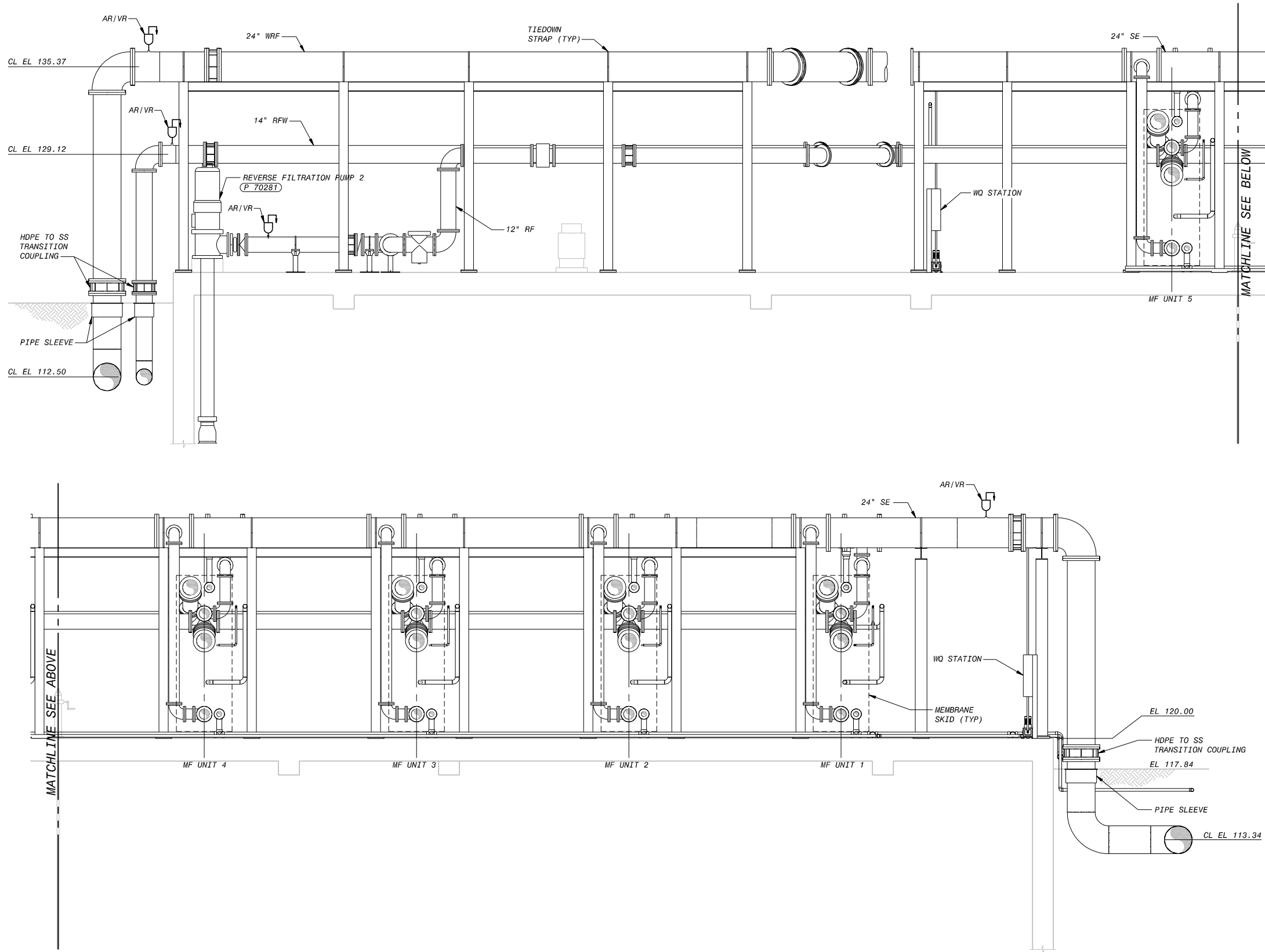
SCALE  
1/4"=1'-0"

DRAWING NUMBER  
**MM300**

SHEET NUMBER  
59 OF 236

PLOTTED: 1/13/2010, 7:24:20 PM, Batch Plot  
 SAVED: 1/13/2010, 4:17:12 PM

F0034202  
 B0034202



SECTION 1  
 1/4" = 1'-0" MM100

PRELIMINARY – NOT FOR CONSTRUCTION



REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)	
FILE	
DRAWN	GT
DESIGNED	AYA
CHECKED	

CONTRACT NUMBER

SACRAMENTO REGIONAL  
 SANITATION DISTRICT  
 OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
 WASTEWATER TREATMENT PLANT  
 WATER RECLAMATION FACILITY  
 EXPANSION PROJECT – PHASE II

MECHANICAL  
 MEMBRANE FILTRATION FACILITY  
 SECTION

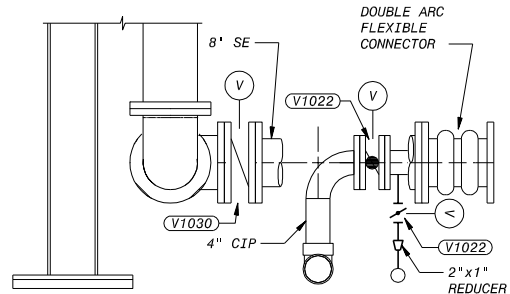
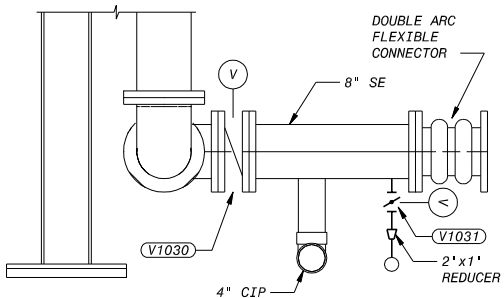
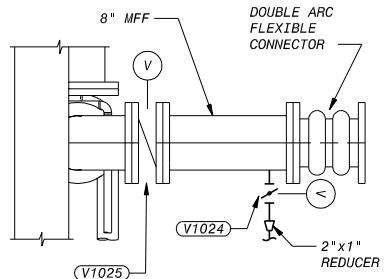
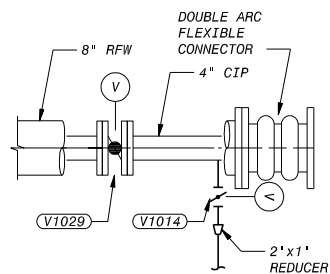
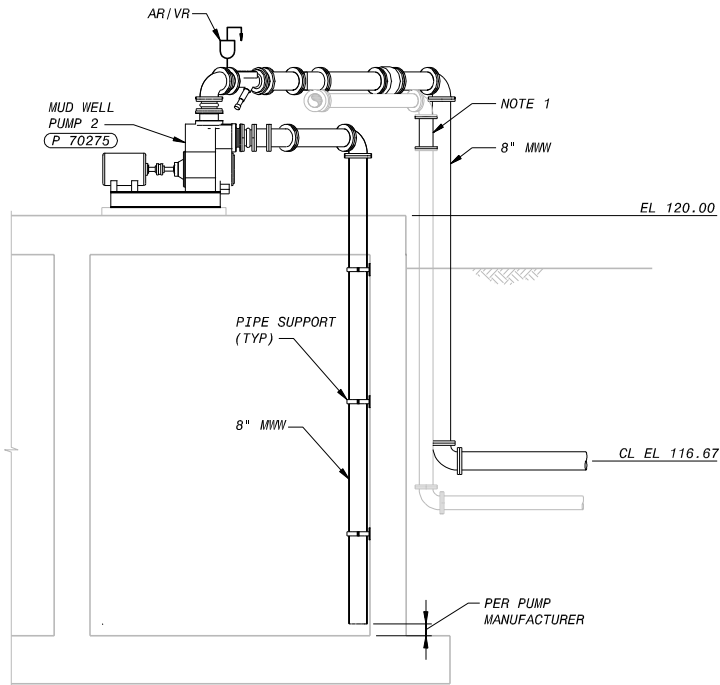
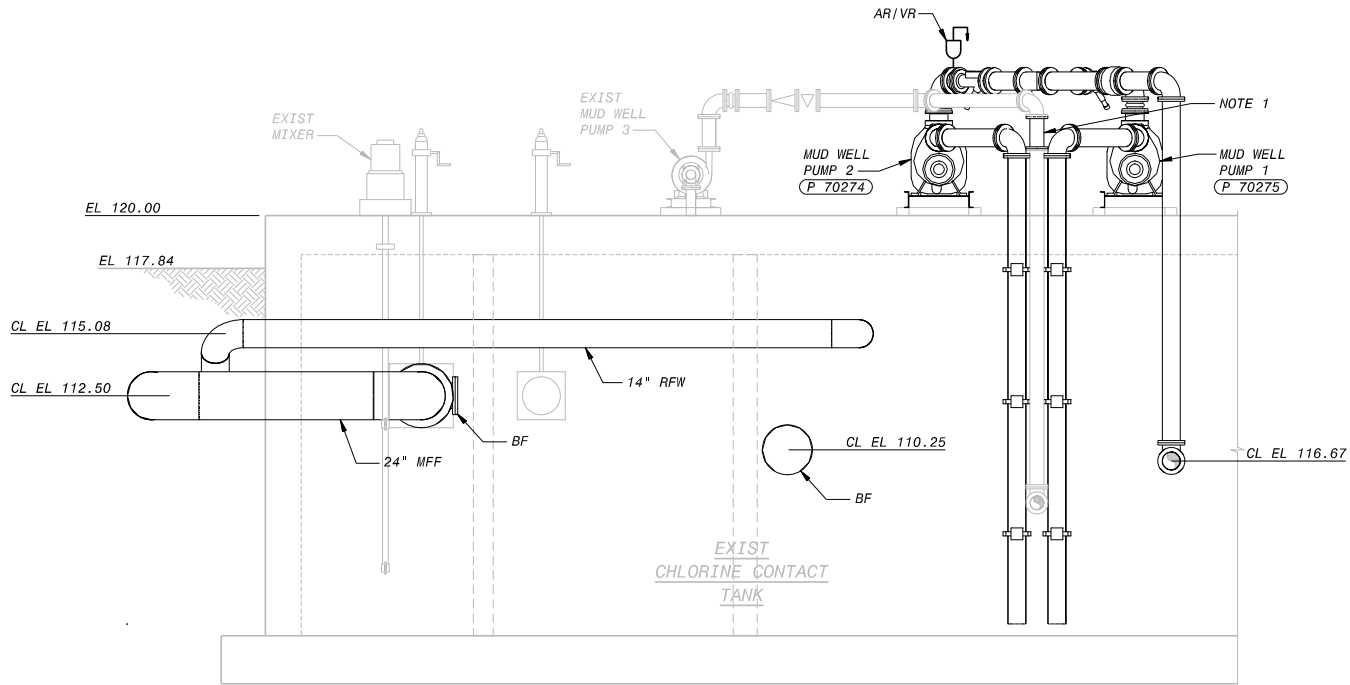
SCALE  
 1/4"=1'-0"

DRAWING NUMBER  
**MM301**

SHEET NUMBER  
 60 OF 236



PLOT FILE: 1/13/2010 7:24:59 PM, Batch Plot  
 SAVE: 1/13/2010 4:17:33 PM  
 F0034202  
 B0034202



NOTES:

1. REPLACE EXISTING TEE WITH NEW SPOOL PIECE.

PRELIMINARY – NOT FOR CONSTRUCTION

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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"-SCALE ACCORDINGLY)

FILE \_\_\_\_\_  
DRAWN \_\_\_\_\_ GT  
DESIGNED \_\_\_\_\_ AYA  
CHECKED \_\_\_\_\_

CONTRACT NUMBER \_\_\_\_\_

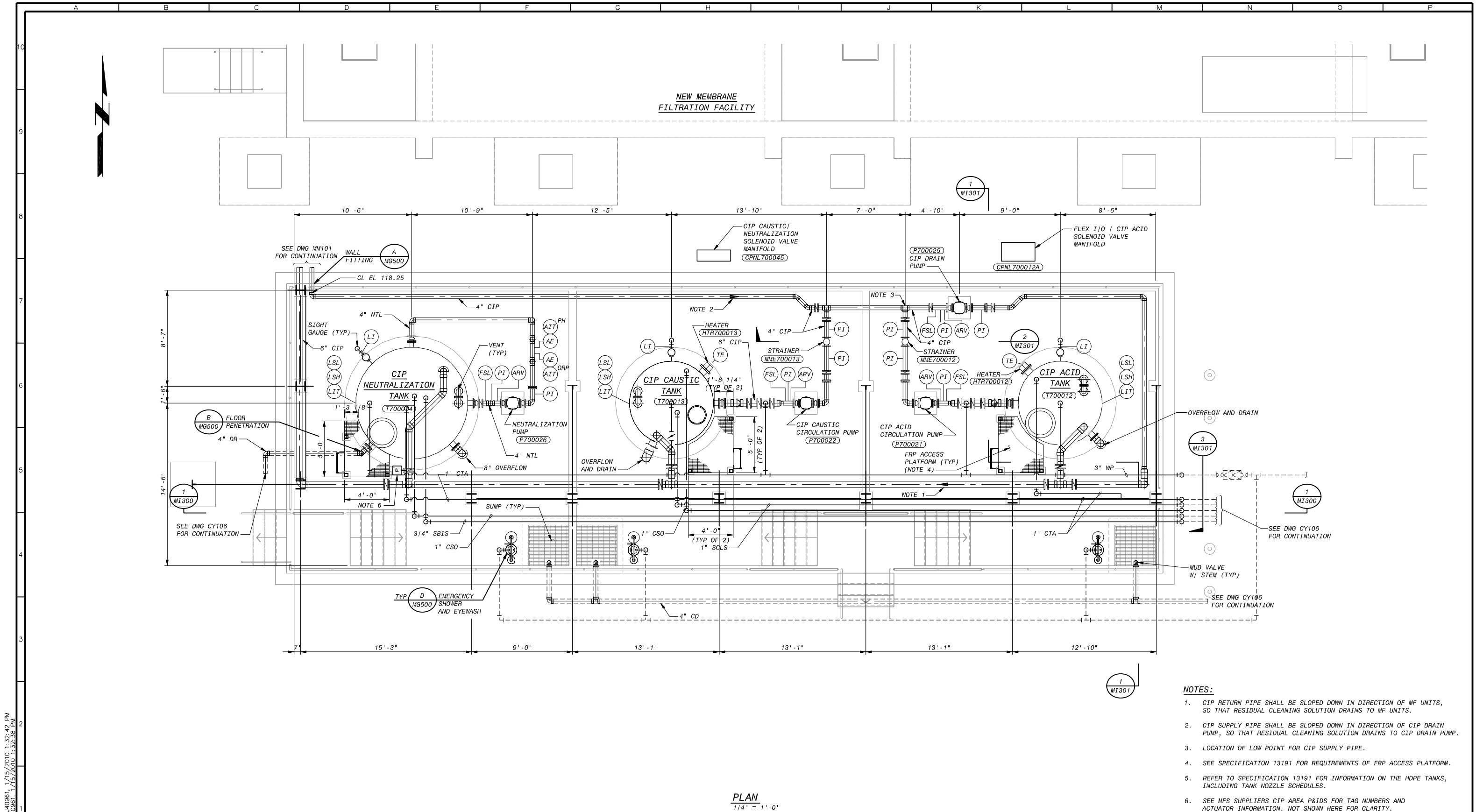
SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA  
  
SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT – PHASE II

MECHANICAL  
MEMBRANE FILTRATION FACILITY  
SECTIONS AND DETAILS

SCALE  
1/4"=1'-0"  
DRAWING NUMBER  
**MM302**  
SHEET NUMBER  
61 OF 236

PLOTTED: TUE0961, 1/15/2010, 1:32:42 PM  
 SAVED: TUE0961, 1/15/2010, 1:32:35 PM

F008342202  
 BDR342202



- NOTES:
- CIP RETURN PIPE SHALL BE SLOPED DOWN IN DIRECTION OF MF UNITS, SO THAT RESIDUAL CLEANING SOLUTION DRAINS TO MF UNITS.
  - CIP SUPPLY PIPE SHALL BE SLOPED DOWN IN DIRECTION OF CIP DRAIN PUMP, SO THAT RESIDUAL CLEANING SOLUTION DRAINS TO CIP DRAIN PUMP.
  - LOCATION OF LOW POINT FOR CIP SUPPLY PIPE.
  - SEE SPECIFICATION 13191 FOR REQUIREMENTS OF FRP ACCESS PLATFORM.
  - REFER TO SPECIFICATION 13191 FOR INFORMATION ON THE HDPE TANKS, INCLUDING TANK NOZZLE SCHEDULES.
  - SEE MFS SUPPLIERS CIP AREA P&IDS FOR TAG NUMBERS AND ACTUATOR INFORMATION. NOT SHOWN HERE FOR CLARITY.

PLAN  
 1/4" = 1'-0"

PRELIMINARY – NOT FOR CONSTRUCTION



REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

FILE		
DRAWN	GT	
DESIGNED	MNT	
CHECKED		

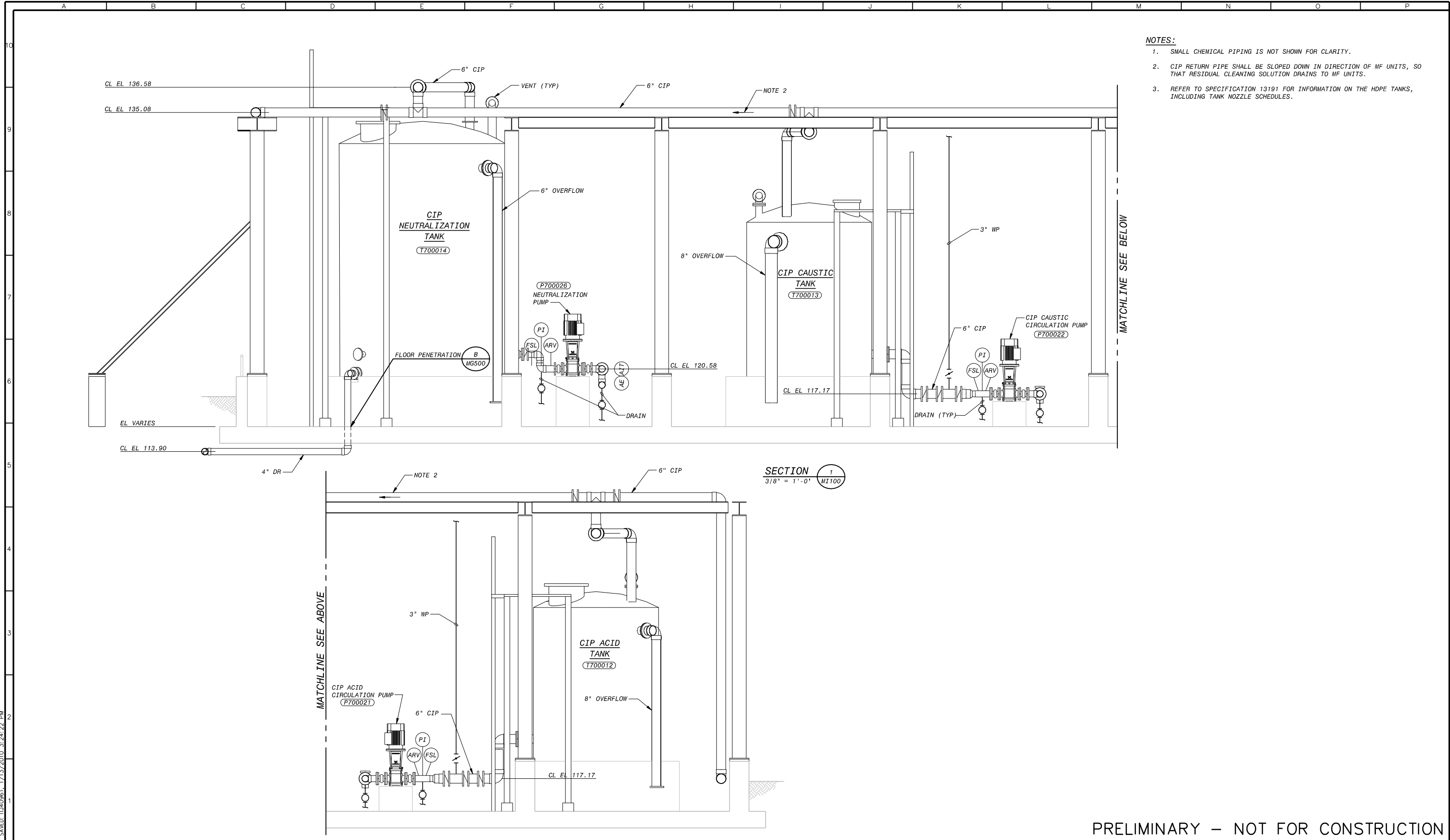
CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
 SANITATION DISTRICT  
 OF SACRAMENTO COUNTY, CALIFORNIA  
 SACRAMENTO REGIONAL  
 WASTEWATER TREATMENT PLANT  
 WATER RECLAMATION FACILITY  
 EXPANSION PROJECT – PHASE II



MECHANICAL  
 CIP-NEUTRALIZATION SYSTEM  
 PLAN



SCALE
AS NOTED
DRAWING NUMBER
MI100
SHEET NUMBER
62 OF 236

PLOTTED: 1/13/2010, 6:21:59 PM, Batch Plot  
 SAVED: 1/13/2010, 8:24:22 PM  
 F0034202  
 B0034202



PRELIMINARY – NOT FOR CONSTRUCTION





REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"-SCALE ACCORDINGLY)

FILE \_\_\_\_\_  
DRAWN GT, JMM  
DESIGNED MNT  
CHECKED \_\_\_\_\_

CONTRACT NUMBER \_\_\_\_\_

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT – PHASE II

MECHANICAL  
CIP-NEUTRALIZATION SYSTEM  
SECTION

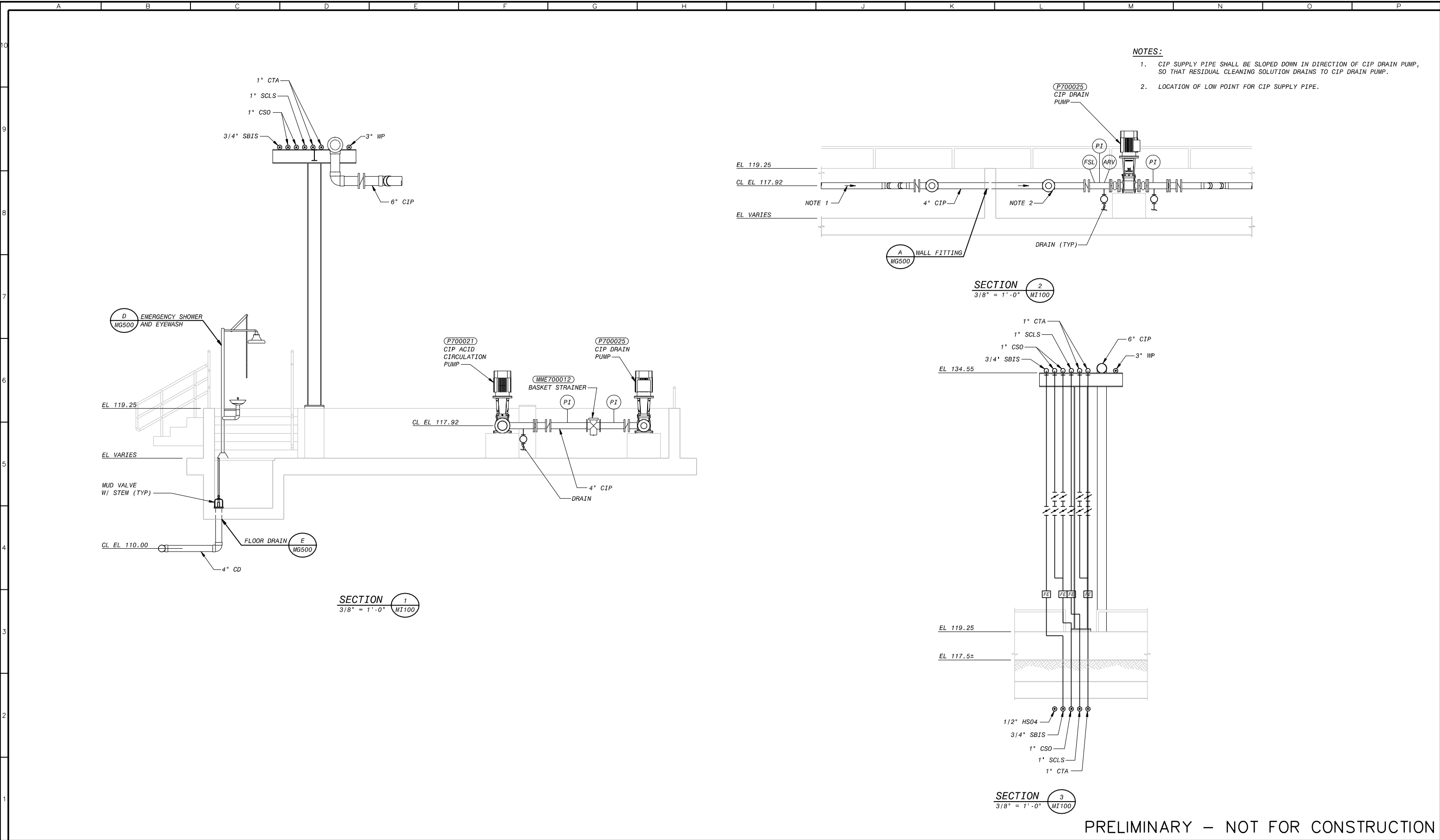
SCALE  
3/8"=1'-0"

DRAWING NUMBER  
**MI300**

SHEET NUMBER  
63 OF 236



PLOT FILE: 1/13/2010, 6:22:23 PM, Batch Plot  
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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	50% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES  
 AT FULL SIZE  
 (IF NOT 2"-SCALE ACCORDINGLY)

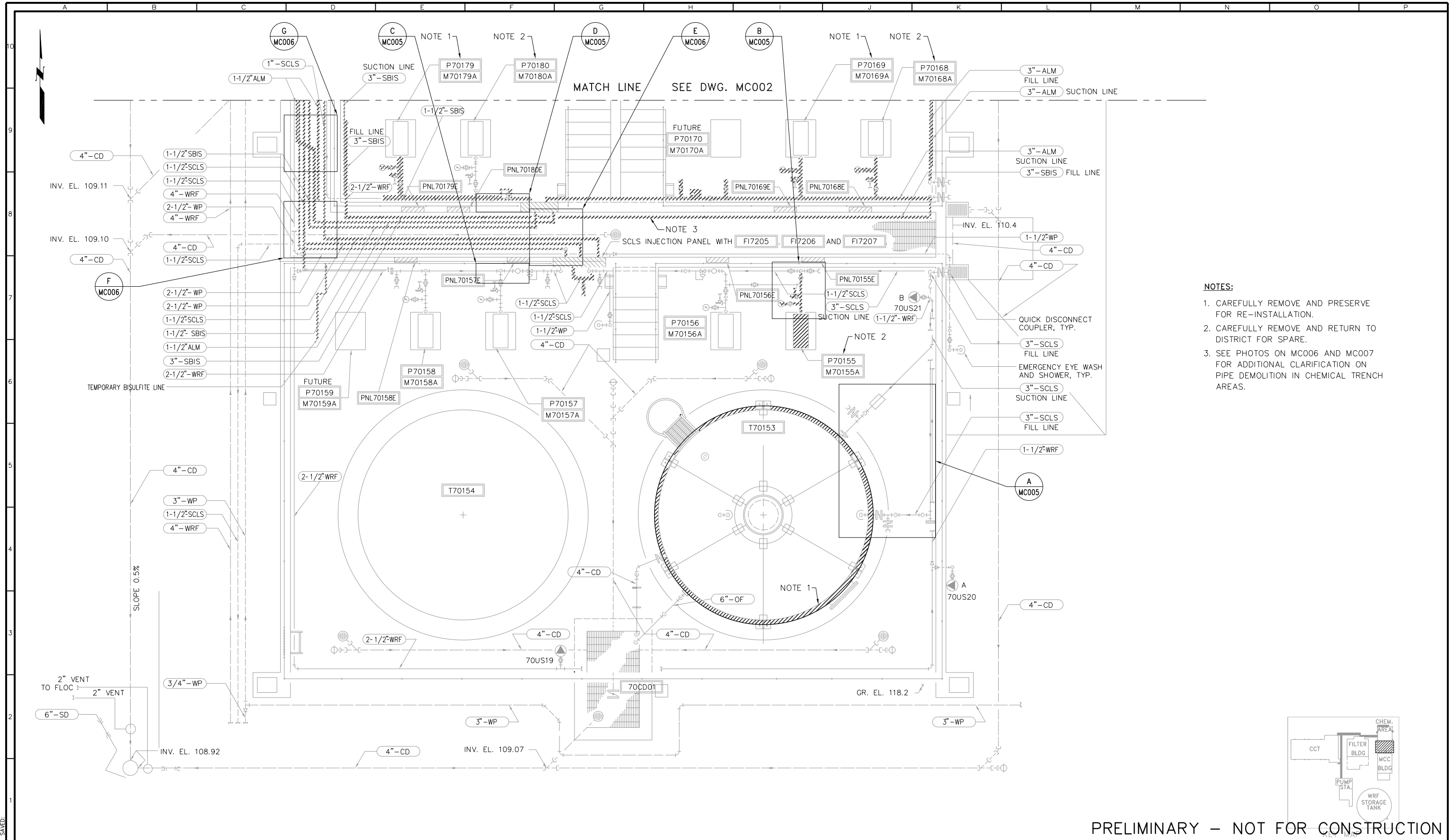
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 DESIGNED MNT  
 CHECKED \_\_\_\_\_

CONTRACT NUMBER

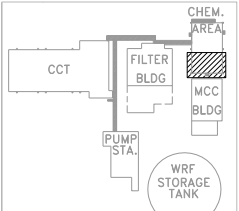
SACRAMENTO REGIONAL COUNTY  
 SANITATION DISTRICT  
 OF SACRAMENTO COUNTY, CALIFORNIA  
  
 SACRAMENTO REGIONAL  
 WASTEWATER TREATMENT PLANT  
 WATER RECLAMATION FACILITY  
 EXPANSION PROJECT - PHASE II

MECHANICAL  
 CIP-NEUTRALIZATION SYSTEM  
 SECTIONS

SCALE  
 3/8"=1'-0"  
 DRAWING NUMBER  
**M1301**  
 SHEET NUMBER  
 64 OF 236



- NOTES:**
- 1. CAREFULLY REMOVE AND PRESERVE FOR RE-INSTALLATION.
  - 2. CAREFULLY REMOVE AND RETURN TO DISTRICT FOR SPARE.
  - 3. SEE PHOTOS ON MC006 AND MC007 FOR ADDITIONAL CLARIFICATION ON PIPE DEMOLITION IN CHEMICAL TRENCH AREAS.



PRELIMINARY – NOT FOR CONSTRUCTION

FB0342202  
PLOT: 2/5/10  
SAVE

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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

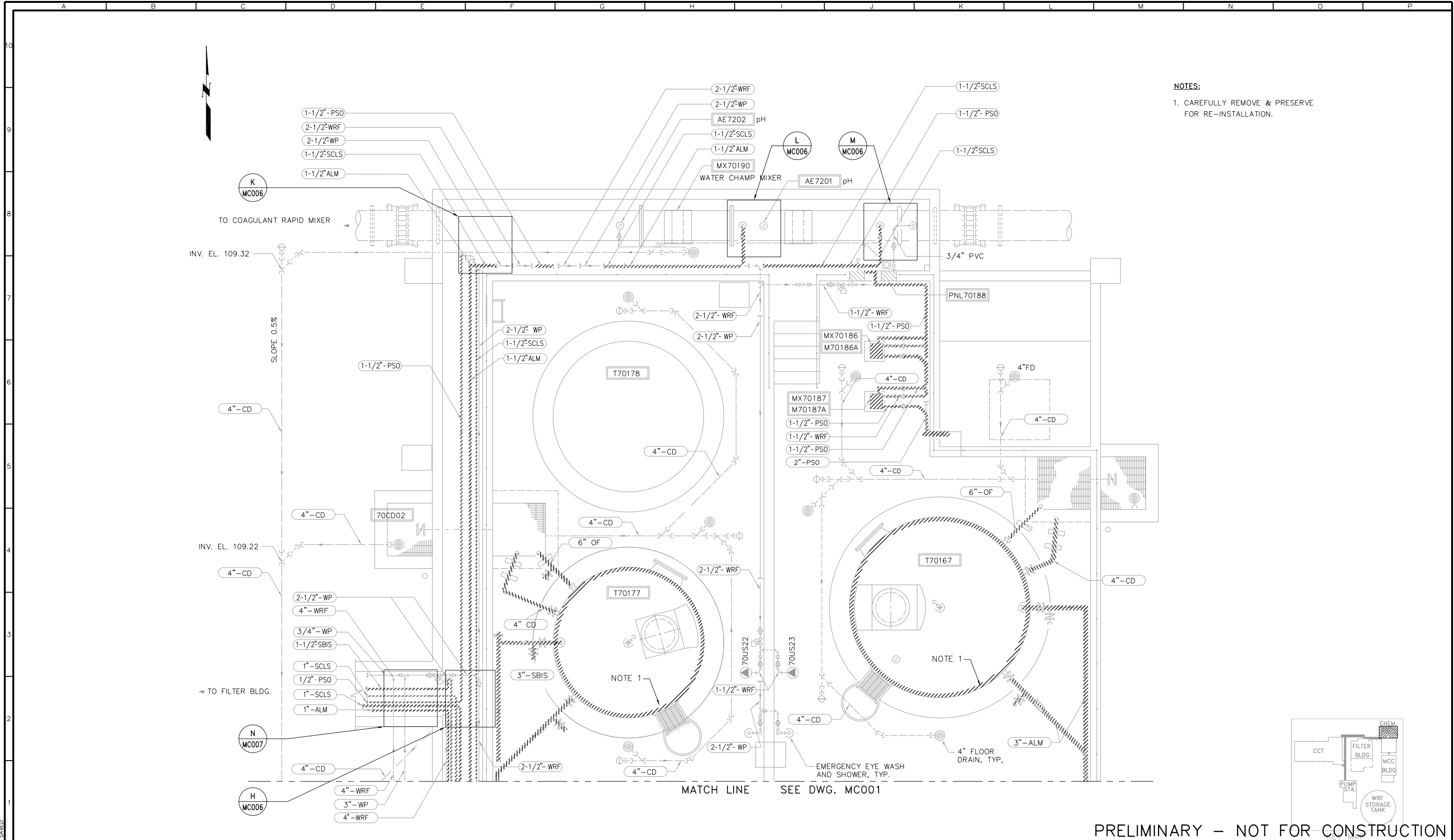
LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"=SCALE ACCORDINGLY)	
FILE	FILE NAME
DRAWN	JM
DESIGNED	JM
CHECKED	DW/LZ

TBD  
CONTRACT NUMBER



SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA  
  
SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY



MECHANICAL  
  
CHEMICAL STORAGE AREA  
DEMOLITION PLAN - 1

SCALE 3/8"=1'
DRAWING NUMBER MC001
SHEET NUMBER 65 OF 236



PRELIMINARY – NOT FOR CONSTRUCTION





REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"-SCALE ACCORDINGLY)

FILE	FILE NAME
DRAWN	JM
DESIGNED	JM
CHECKED	DW/LZ

TBD  
CONTRACT NUMBER

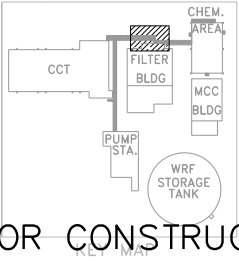
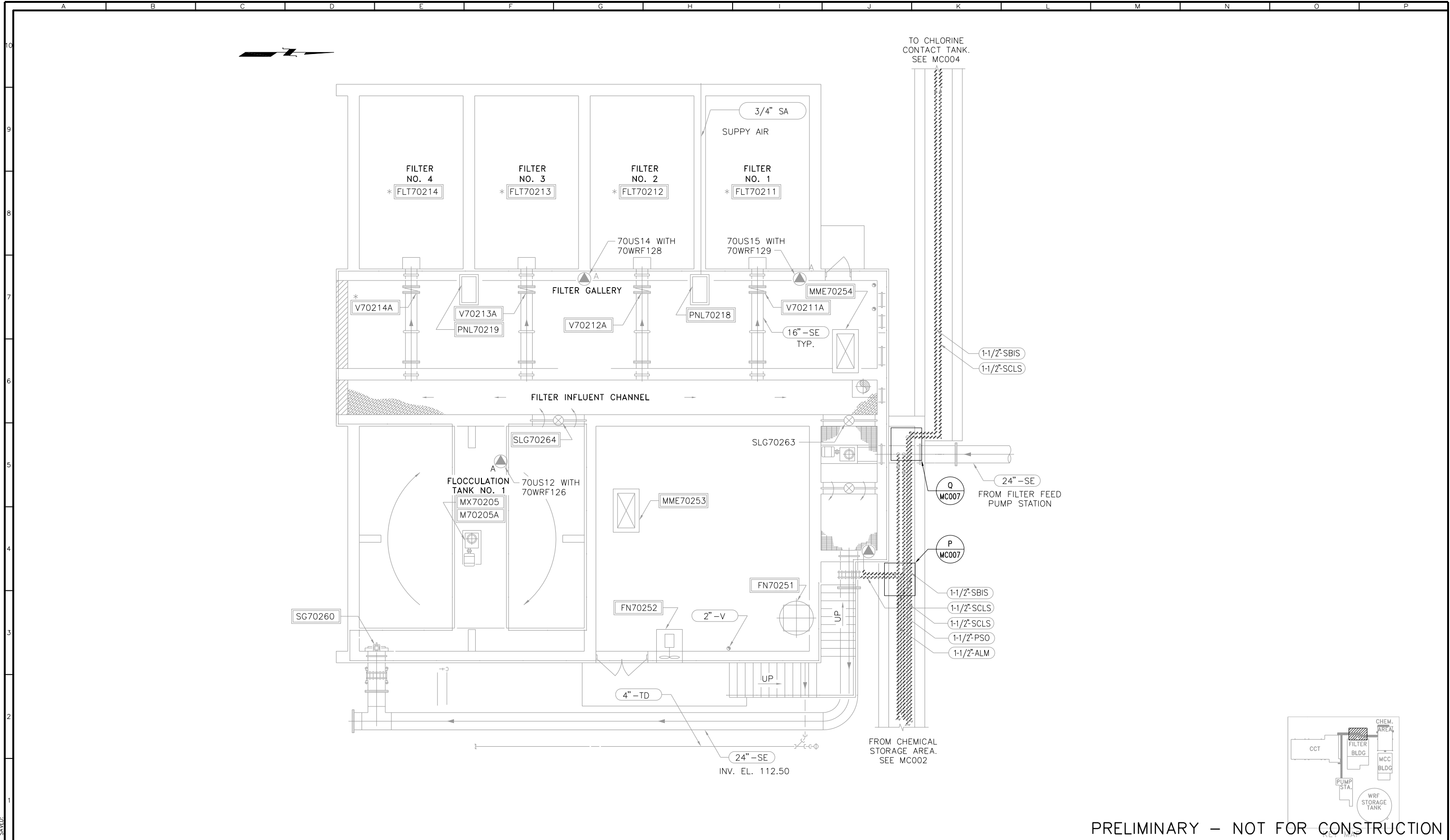
SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY

MECHANICAL

CHEMICAL STORAGE AREA  
DEMOLITION PLAN - 2

SCALE  
3/8"=1'  
DRAWING NUMBER  
MC002  
SHEET NUMBER  
66 OF 236



PRELIMINARY – NOT FOR CONSTRUCTION

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SRCS D

REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"=SCALE ACCORDINGLY)

FILE FILE NAME

DRAWN JM

DESIGNED JM

CHECKED DW/LZ

TBD

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY

MECHANICAL

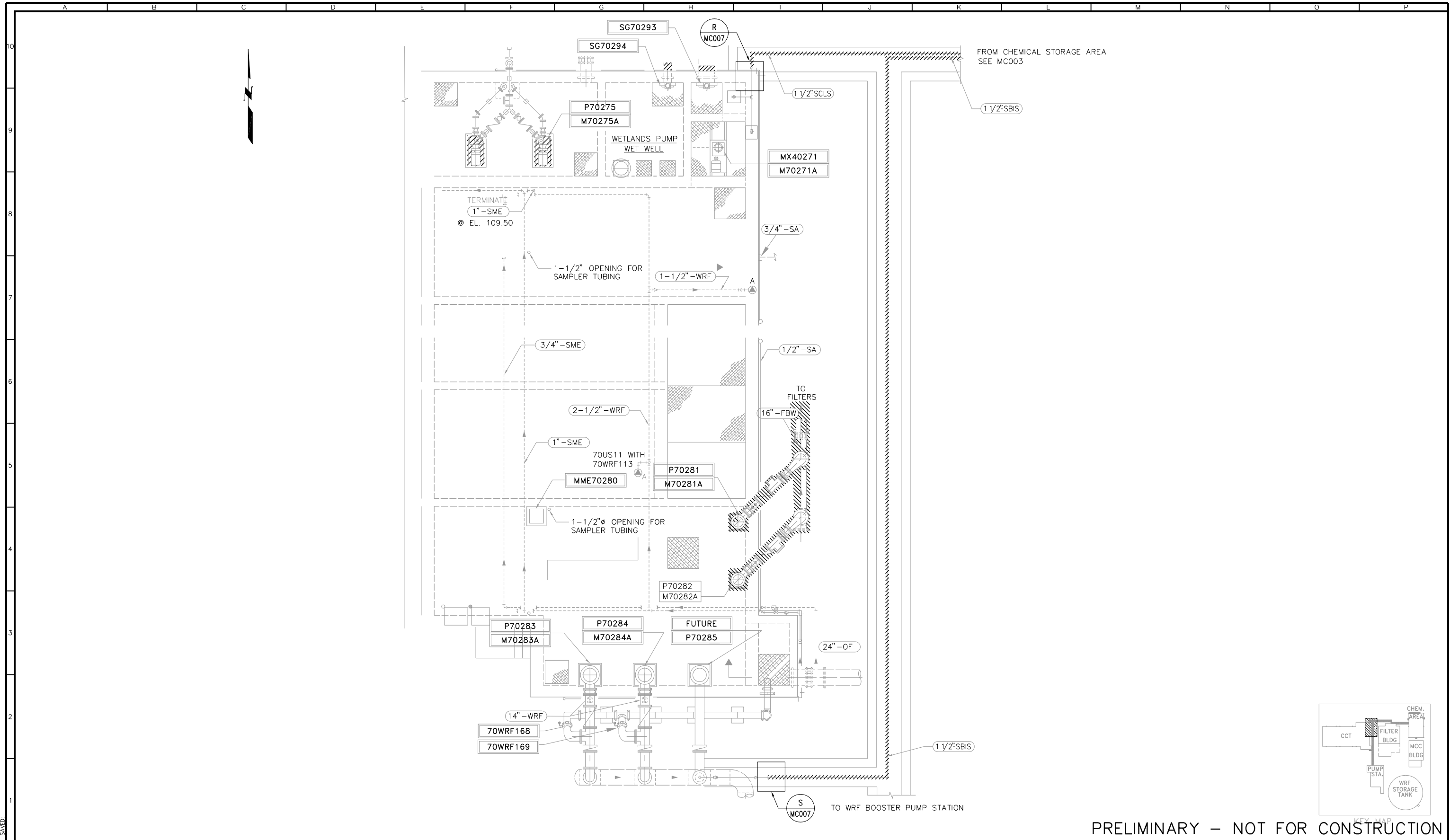
CHEMICAL TRENCH  
DEMOLITION PLAN - 3

SCALE  
3/8"=1'

DRAWING NUMBER  
**MC003**

SHEET NUMBER  
67 OF 236

FB0342202  
2014-04-22



PRELIMINARY – NOT FOR CONSTRUCTION

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SRCS D

REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"=SCALE ACCORDINGLY)

FILE	FILE NAME
DRAWN	JM
DESIGNED	JM
CHECKED	DW/LZ

TBD

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY

MECHANICAL

CHEMICAL TRENCH  
DEMOLITION PLAN - 4

SCALE  
3/8"=1'

DRAWING NUMBER  
MC004

SHEET NUMBER  
68 OF 236

FB0342202  
5/24/2012



PHOTO A

Scale: NO SCALE MC001

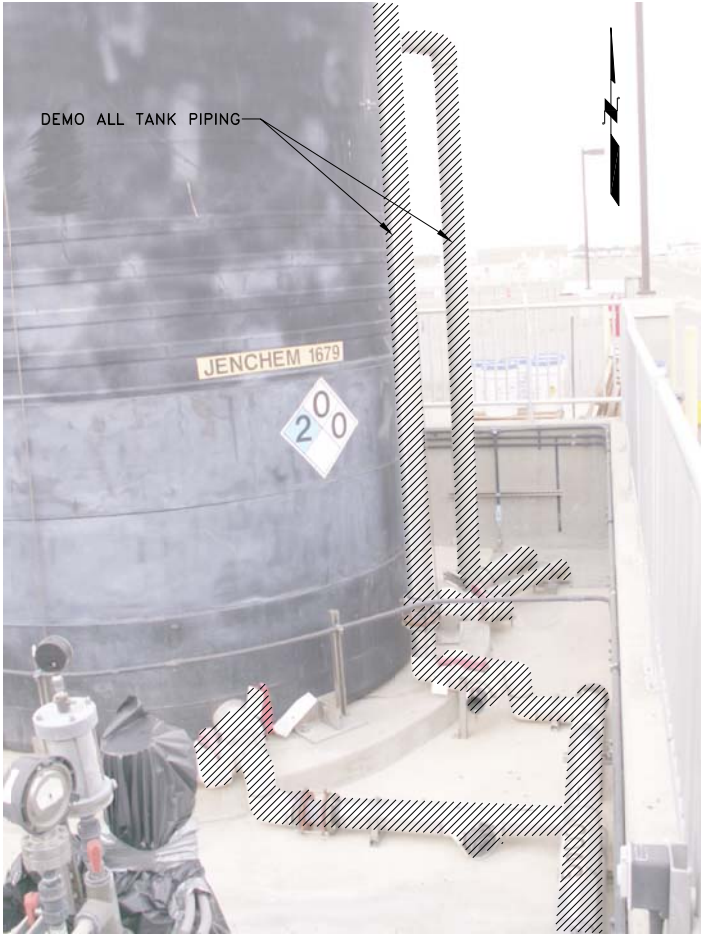


PHOTO B

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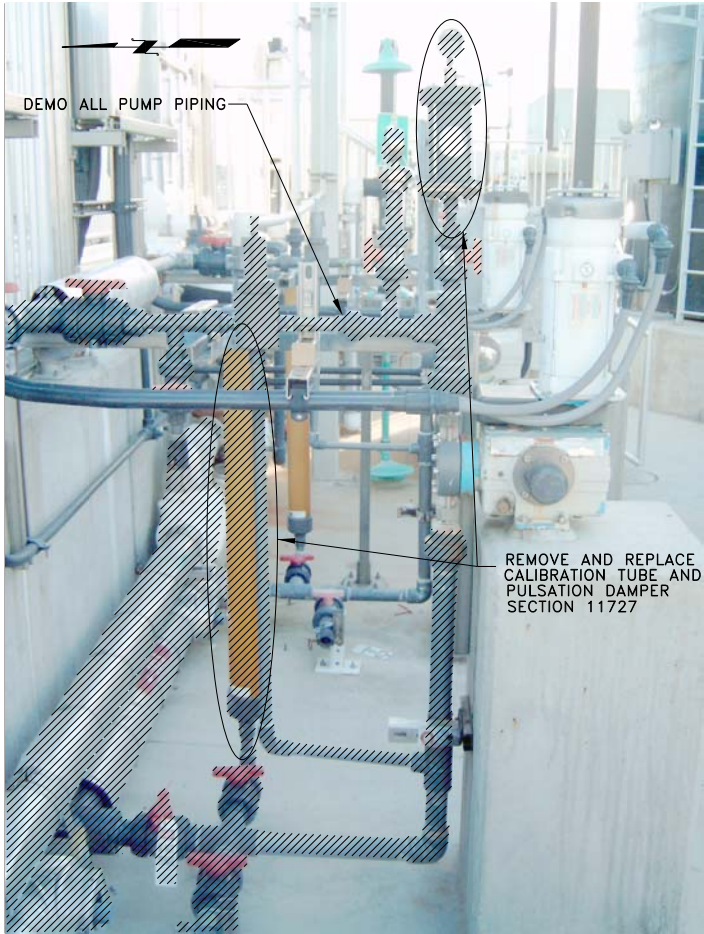


PHOTO C

Scale: NO SCALE MC001





PHOTO D

Scale: NO SCALE MC001



PRELIMINARY – NOT FOR CONSTRUCTION

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SRCS D

DANIEL T. WILSON

No. 52933

Exp. 12/31/10

CIVIL

STATE OF CALIFORNIA

LARRY J. ZACHARIAS

No. M028688

Exp. 6-30-11

MECHANICAL

STATE OF CALIFORNIA

REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2" -SCALE ACCORDINGLY)

FILE FILE NAME

DRAWN JM

DESIGNED LZ

CHECKED DW/LZ

TBD

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT WATER RECLAMATION FACILITY

MECHANICAL

CHEMICAL STORAGE AREA

DEMOLITION PHOTOS -1

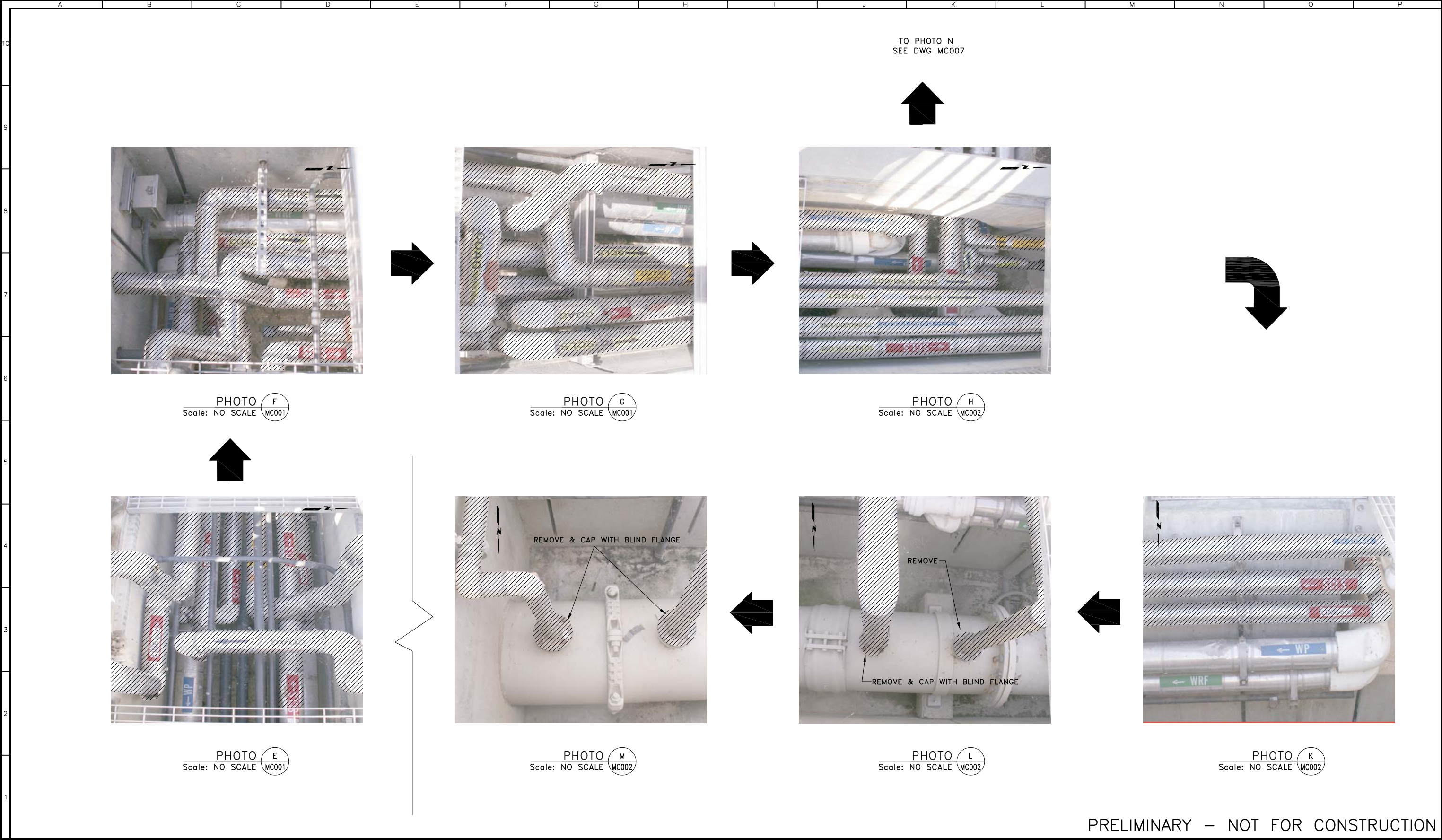
SCALE NO SCALE

DRAWING NUMBER MC005

SHEET NUMBER 69 OF 236

FB0342202  
2013/04/22 02:02





PRELIMINARY – NOT FOR CONSTRUCTION

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SRCS D

REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2" -SCALE ACCORDINGLY)

FILE	FILE NAME
DRAWN	JM
DESIGNED	JM
CHECKED	DW/LZ

TBD

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY

MECHANICAL

CHEMICAL TRENCH  
DEMOLITION PHOTOS – 2

SCALE  
NO SCALE

DRAWING NUMBER  
**MC006**

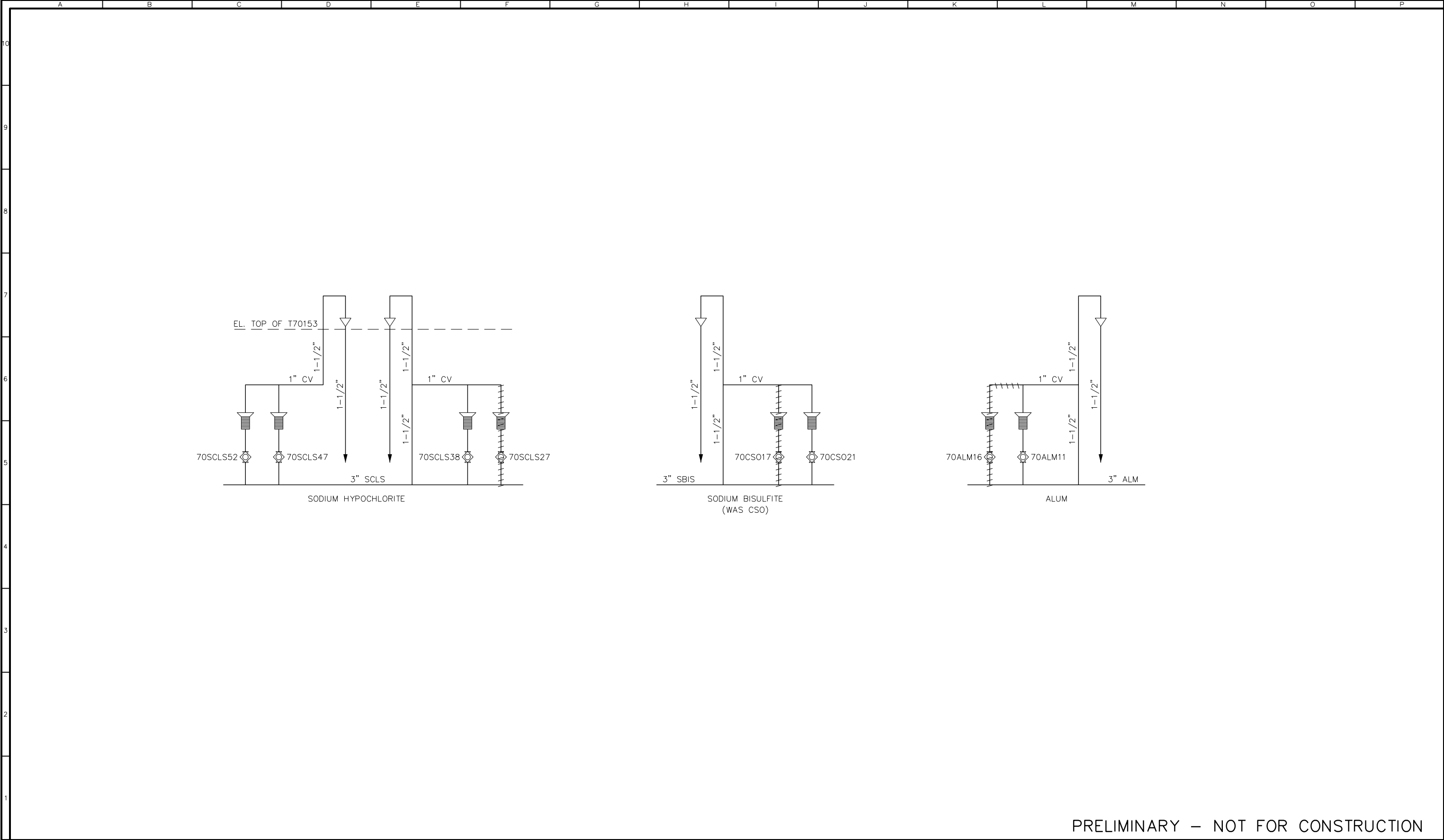
SHEET NUMBER  
70 OF 236

FB0342202  
PLOT0342202









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**Black & Veatch Corporation**  
Walnut Creek, California



REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"=SCALE ACCORDINGLY)

FILE FILE NAME

DRAWN JWILLARD

DESIGNED LZACHARIAS

CHECKED LZ

TBD

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY

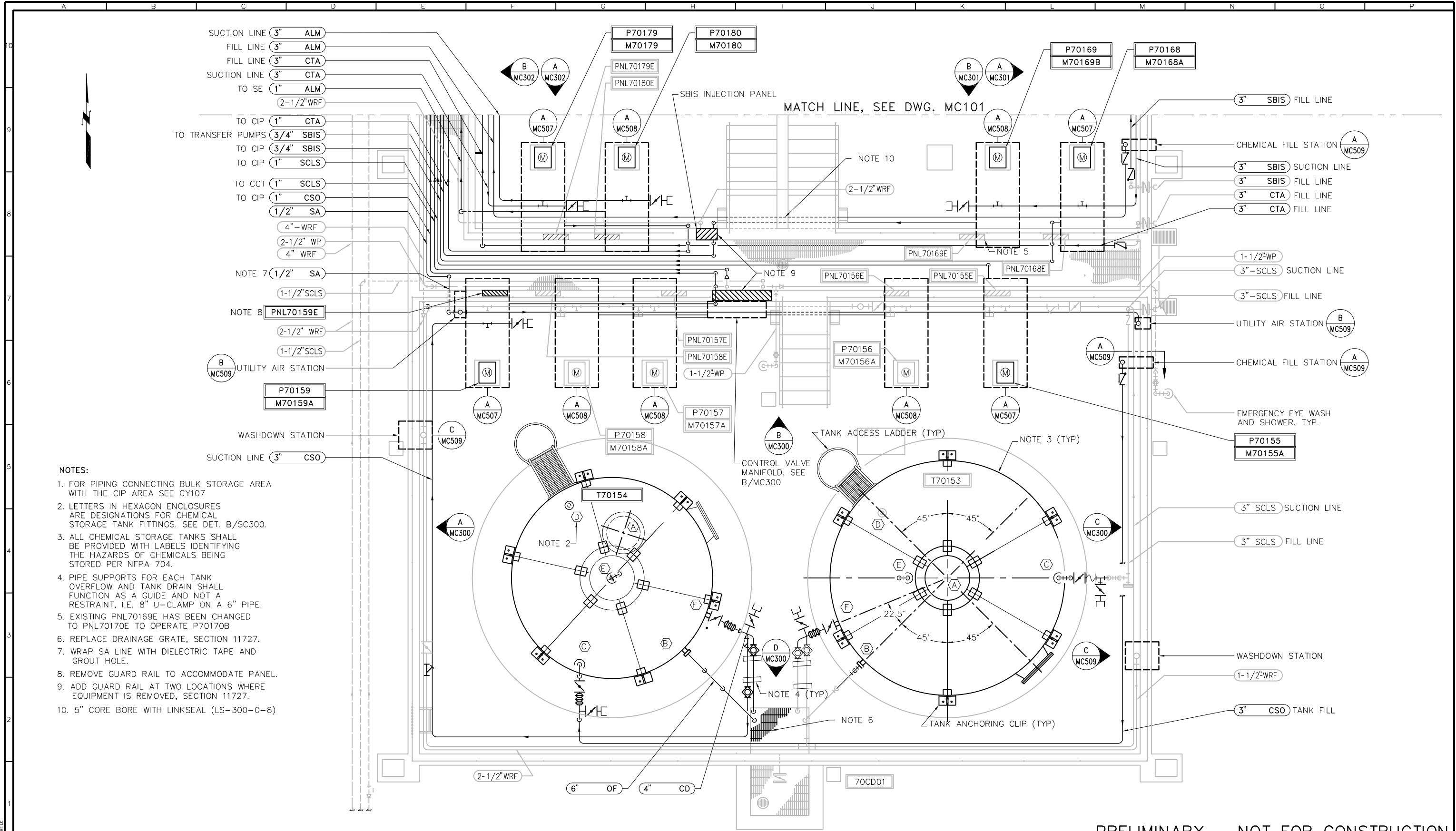
PROCESS AND PIPING SCHEMATIC

WRF CHEMICAL STORES  
CHEMICAL VENT SYSTEMS SCHEMATICS  
DEMOLITION

SCALE  
NO SCALE

DRAWING NUMBER  
**MC009**

SHEET NUMBER  
73 OF 236



- NOTES:**
1. FOR PIPING CONNECTING BULK STORAGE AREA WITH THE CIP AREA SEE CY107
  2. LETTERS IN HEXAGON ENCLOSURES ARE DESIGNATIONS FOR CHEMICAL STORAGE TANK FITTINGS. SEE DET. B/SC300.
  3. ALL CHEMICAL STORAGE TANKS SHALL BE PROVIDED WITH LABELS IDENTIFYING THE HAZARDS OF CHEMICALS BEING STORED PER NFPA 704.
  4. PIPE SUPPORTS FOR EACH TANK OVERFLOW AND TANK DRAIN SHALL FUNCTION AS A GUIDE AND NOT A RESTRAINT, I.E. 8" U-CLAMP ON A 6" PIPE.
  5. EXISTING PNL70169E HAS BEEN CHANGED TO PNL70170E TO OPERATE P70170B
  6. REPLACE DRAINAGE GRATE, SECTION 11727.
  7. WRAP SA LINE WITH DIELECTRIC TAPE AND GROUT HOLE.
  8. REMOVE GUARD RAIL TO ACCOMMODATE PANEL.
  9. ADD GUARD RAIL AT TWO LOCATIONS WHERE EQUIPMENT IS REMOVED, SECTION 11727.
  10. 5" CORE BORE WITH LINKSEAL (LS-300-0-8)

PRELIMINARY – NOT FOR CONSTRUCTION

PLOTTED: 5/11/10  
SHEET: 74 OF 236

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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"=SCALE ACCORDINGLY)

FILE FILE NAME

DRAWN TULLENSVANG

DESIGNED TU

CHECKED DW/LZ

TBD  
CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY

MECHANICAL

CHEMICAL STORAGE  
PLAN VIEW - 1

SCALE

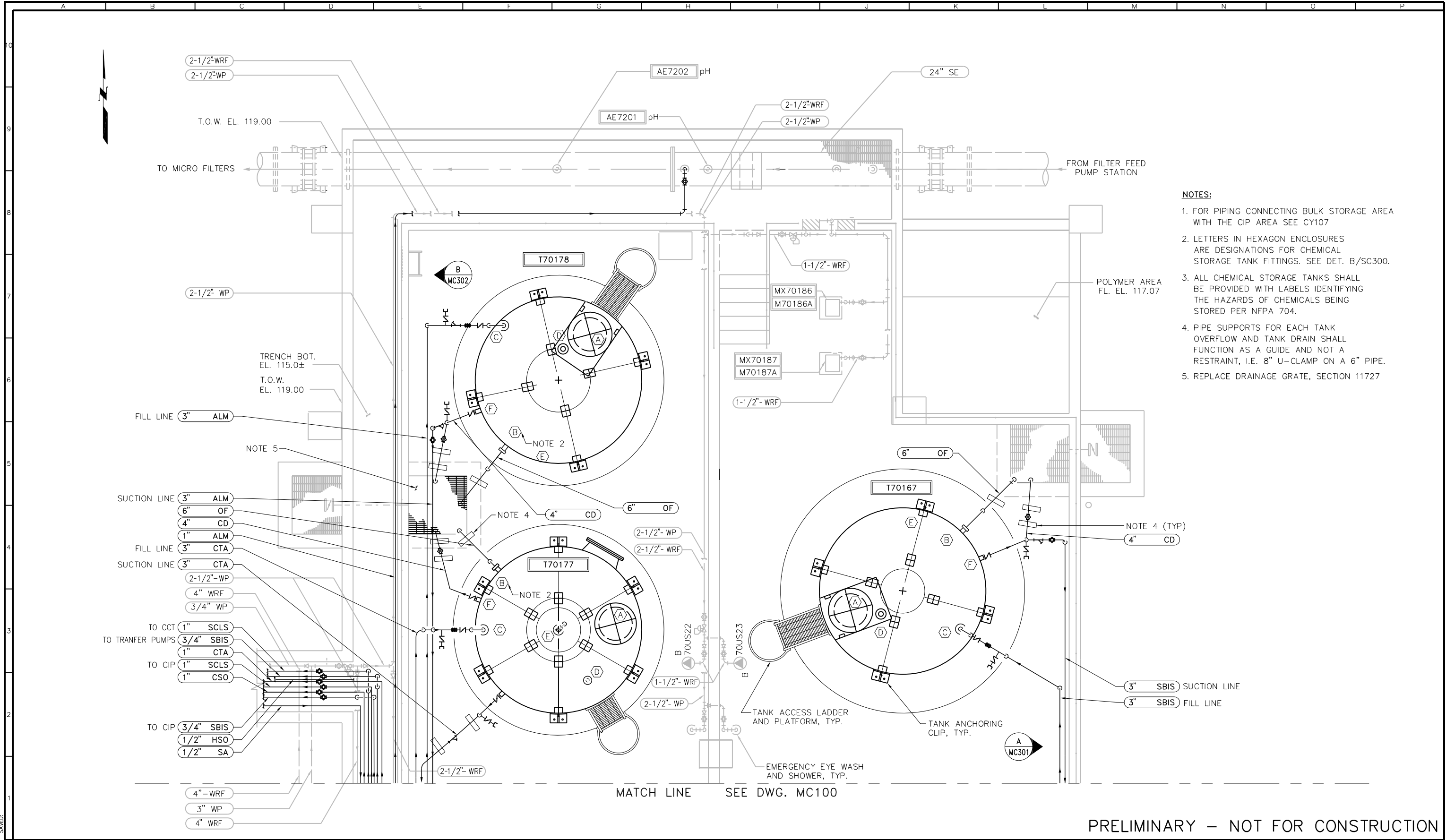
3/8"=1'

DRAWING NUMBER

MC100

SHEET NUMBER

74 OF 236



- NOTES:**
1. FOR PIPING CONNECTING BULK STORAGE AREA WITH THE CIP AREA SEE CY107
  2. LETTERS IN HEXAGON ENCLOSURES ARE DESIGNATIONS FOR CHEMICAL STORAGE TANK FITTINGS. SEE DET. B/SC300.
  3. ALL CHEMICAL STORAGE TANKS SHALL BE PROVIDED WITH LABELS IDENTIFYING THE HAZARDS OF CHEMICALS BEING STORED PER NFPA 704.
  4. PIPE SUPPORTS FOR EACH TANK OVERFLOW AND TANK DRAIN SHALL FUNCTION AS A GUIDE AND NOT A RESTRAINT, I.E. 8" U-CLAMP ON A 6" PIPE.
  5. REPLACE DRAINAGE GRATE, SECTION 11727

PRELIMINARY – NOT FOR CONSTRUCTION

REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)

FILE FILE NAME

DRAWN TULLENSVANG

DESIGNED TU

CHECKED DW / LZ

TBD

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT WATER RECLAMATION FACILITY

MECHANICAL

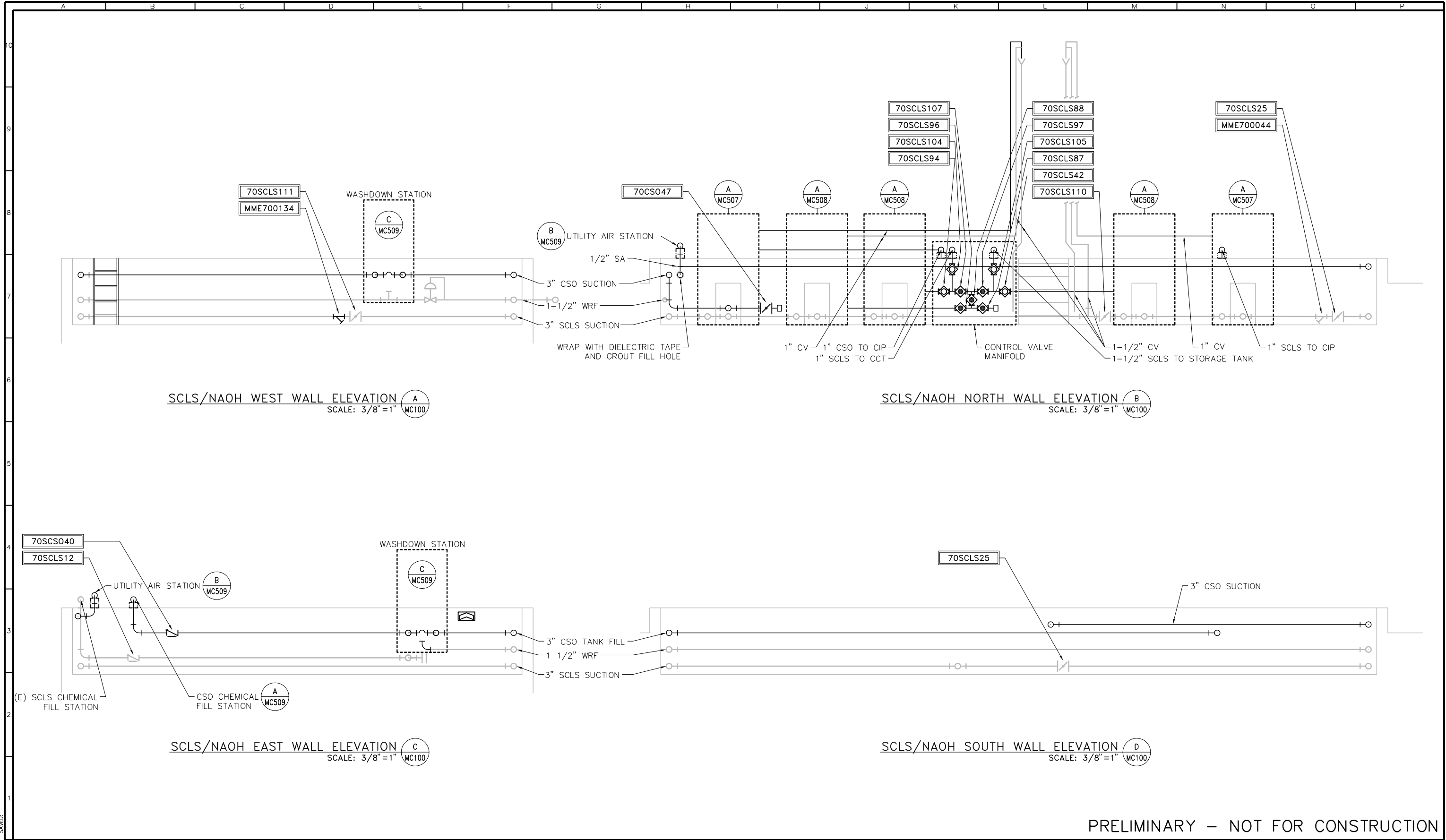
CHEMICAL STORAGE PLAN VIEW - 2

SCALE 3/8"=1'

DRAWING NUMBER **MC101**

SHEET NUMBER 75 OF 236

FB0342202  
SUB 42202



PRELIMINARY – NOT FOR CONSTRUCTION

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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"=SCALE ACCORDINGLY)

FILE FILE NAME

DRAWN LZACHARIAS

DESIGNED LZ

CHECKED GL/DW

TBD

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY

MECHANICAL

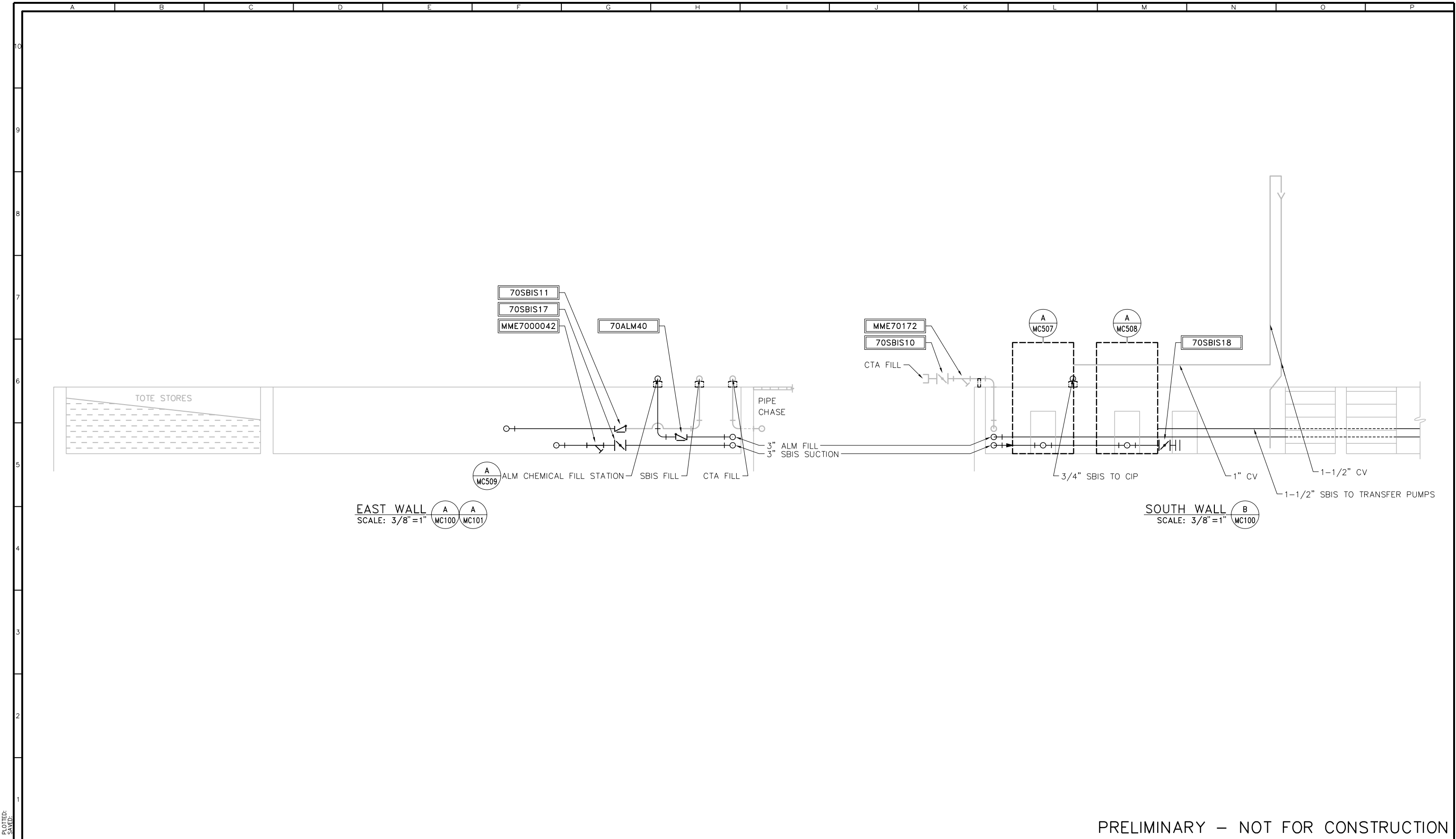
CHEMICAL STORAGE FACILITY  
CHEMICAL PIPING  
SCLS/ NAOH CONTAINMENT AREA

SCALE  
AS SHOWN


DRAWING NUMBER  
**MC300**

SHEET NUMBER  
76 OF 236


FB0342202  
2014.04.22




PRELIMINARY – NOT FOR CONSTRUCTION




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REGISTERED PROFESSIONAL ENGINEER  
No. 52933  
Exp. 12/31/10  
CIVIL  
STATE OF CALIFORNIA



REGISTERED PROFESSIONAL ENGINEER  
No. 102868  
Exp. 6-30-11  
MECHANICAL  
STATE OF CALIFORNIA

REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2" SCALE ACCORDINGLY)

FILE FILE NAME  
DRAWN LZACHARIUS  
DESIGNED LZ  
CHECKED GL/DW

TBD

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY

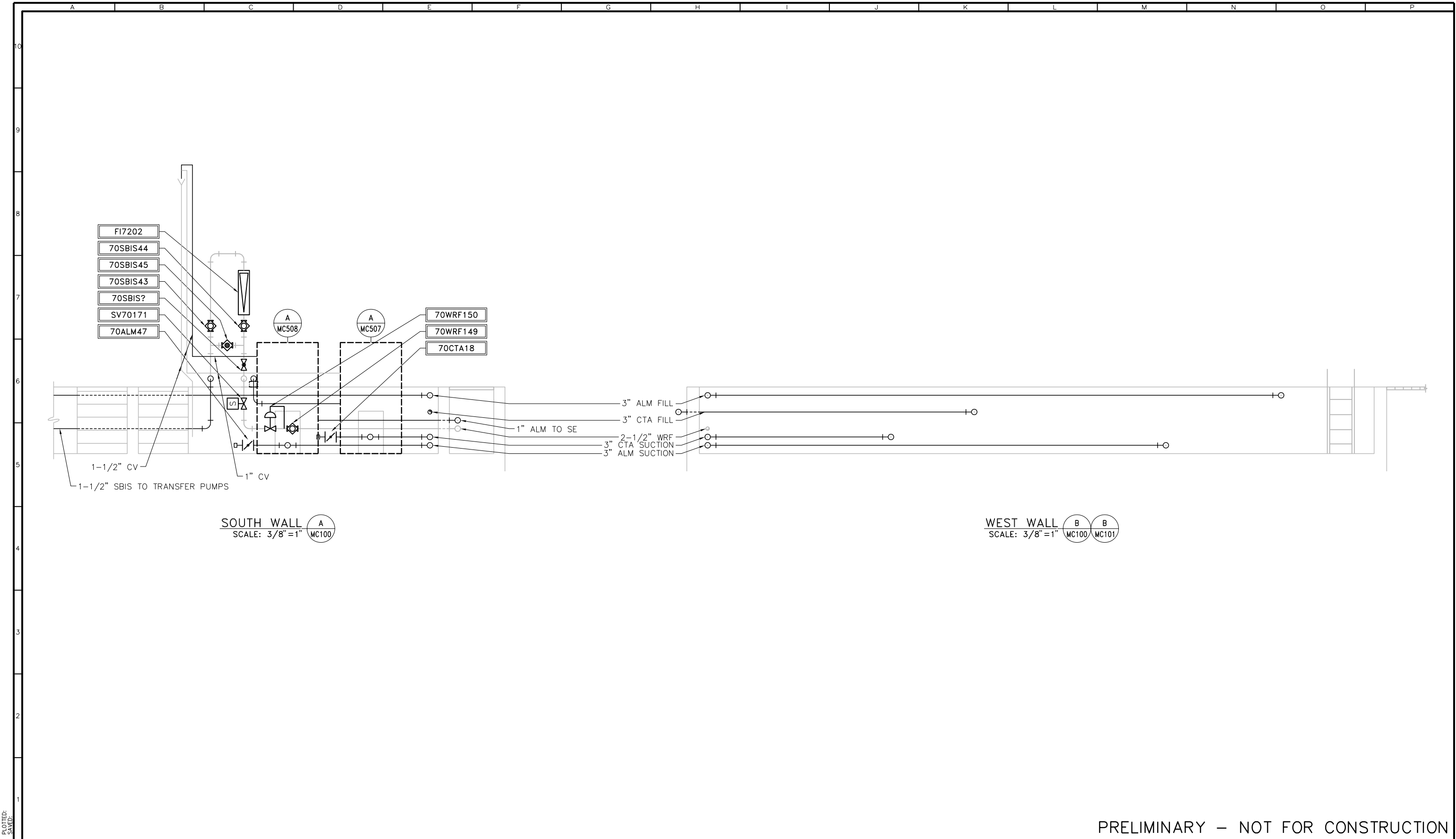
MECHANICAL

CHEMICAL STORAGE FACILITY  
CHEMICAL PIPING ELEVATIONS  
SBIS CONTAINMENT AREA

SCALE  
AS SHOWN

DRAWING NUMBER  
**MC301**

SHEET NUMBER  
77 OF 236



PRELIMINARY – NOT FOR CONSTRUCTION

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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2" SCALE ACCORDINGLY)

FILE FILE NAME

DRAWN JM

DESIGNED LZ

CHECKED GL/DW

TBD

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY

MECHANICAL

CHEMICAL STORAGE FACILITY  
CHEMICAL PIPING ELEVATIONS  
CTA/ ALM CONTAINMENT AREA

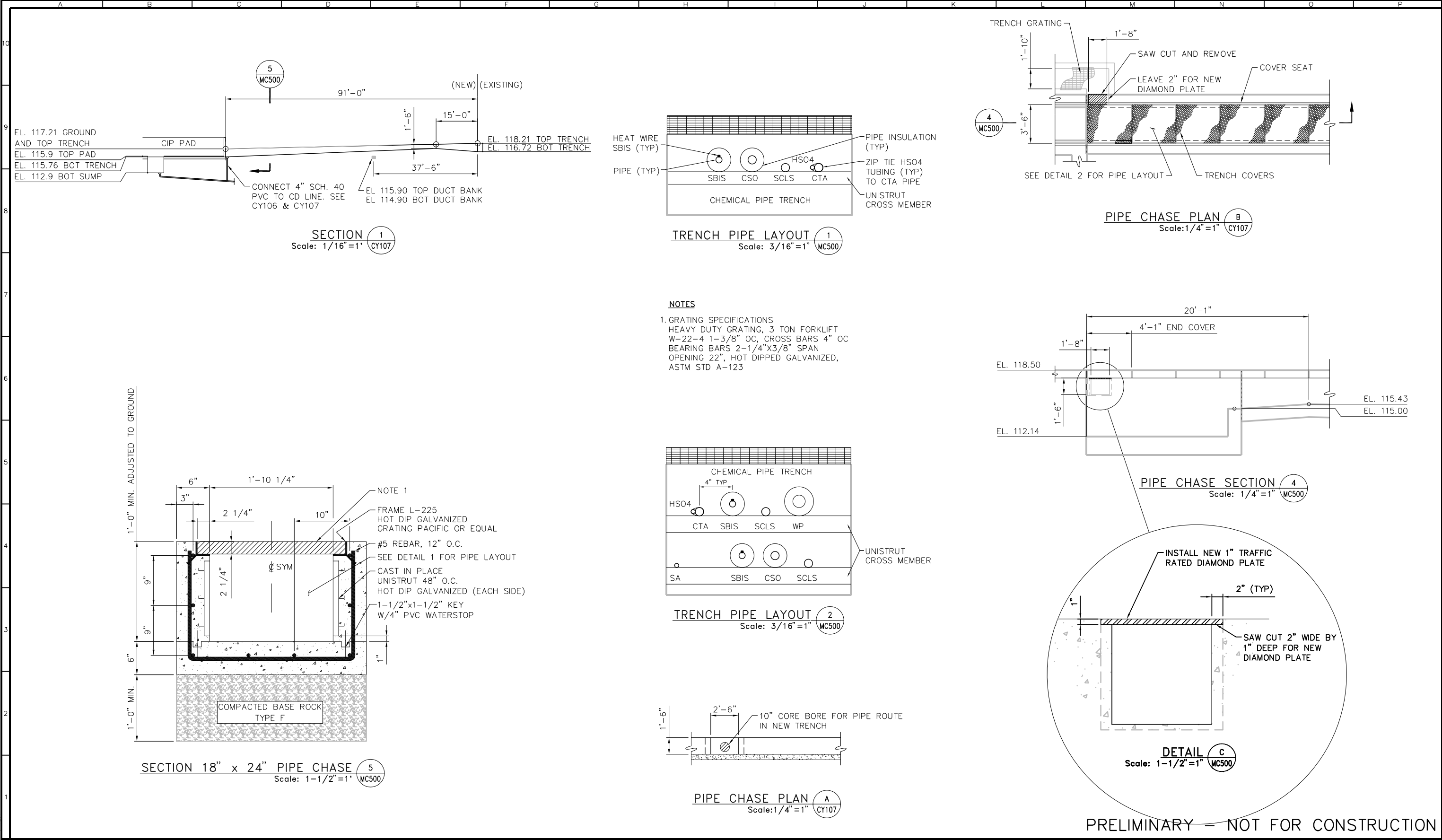
SCALE  
AS SHOWN

DRAWING NUMBER  
**MC302**

SHEET NUMBER  
78 OF 236

FB0342202  
2014-04-22





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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"-SCALE ACCORDINGLY)

FILE **FILE NAME**  
DRAWN **JWILLARD**  
DESIGNED **TULLENSVANG**  
CHECKED **DW / LZ**

**TBD**  
CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY

CIVIL

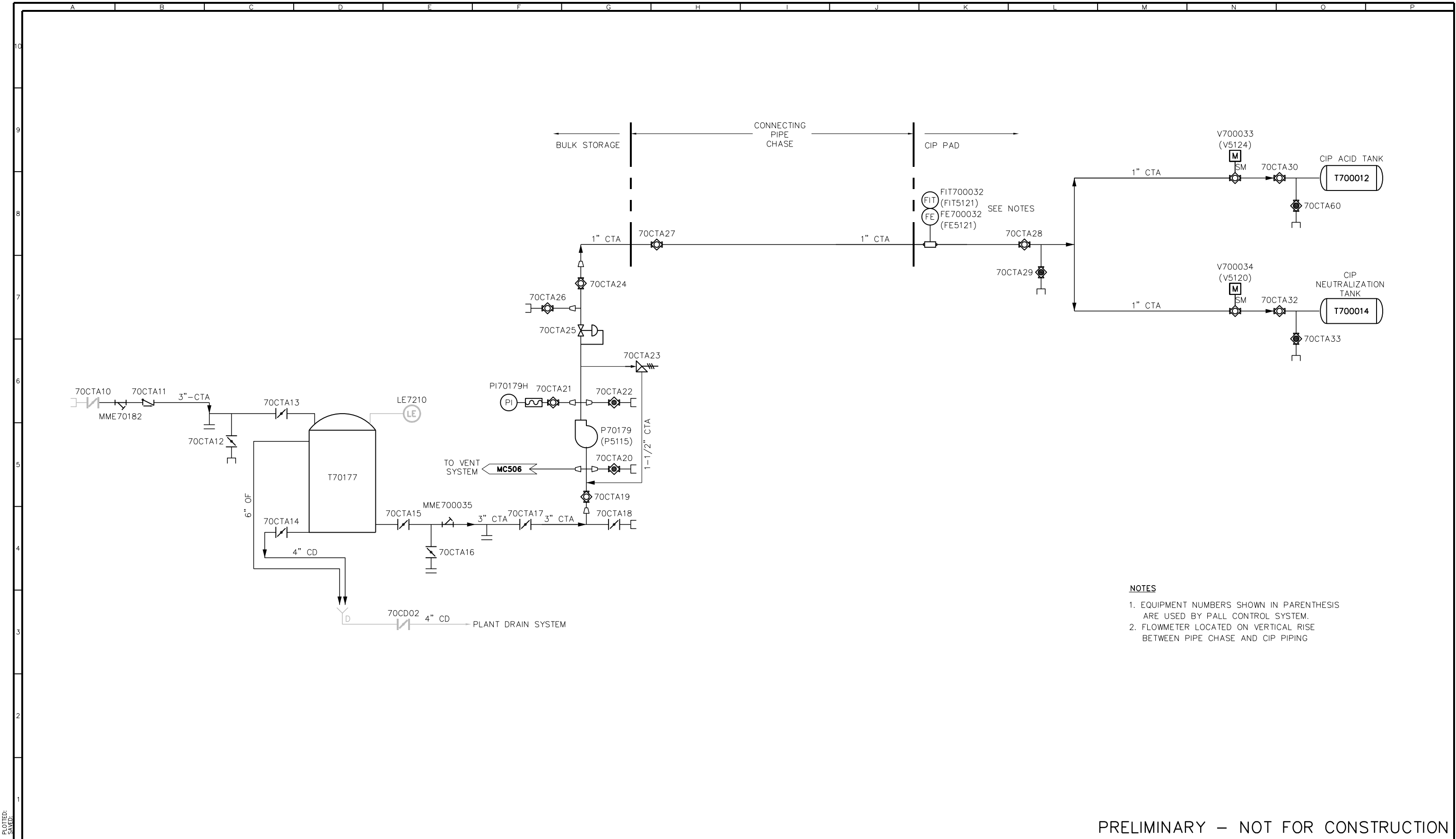
CHEMICAL STORAGE FACILITY  
DETAIL SHEET 1

SCALE  
AS NOTED

DRAWING NUMBER  
**MC500**

SHEET NUMBER  
79 OF 236

FB0342202  
2013/12/20  
PLOTTER:  
SAVE



- NOTES**
- EQUIPMENT NUMBERS SHOWN IN PARENTHESIS ARE USED BY PALL CONTROL SYSTEM.
  - FLOWMETER LOCATED ON VERTICAL RISE BETWEEN PIPE CHASE AND CIP PIPING

PRELIMINARY – NOT FOR CONSTRUCTION

REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2" - SCALE ACCORDINGLY)

FILE FILE NAME

DRAWN TULLENSVANG

DESIGNED LZ

CHECKED LZ

TBD

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT WATER RECLAMATION FACILITY

PROCESS AND PIPING SCHEMATIC

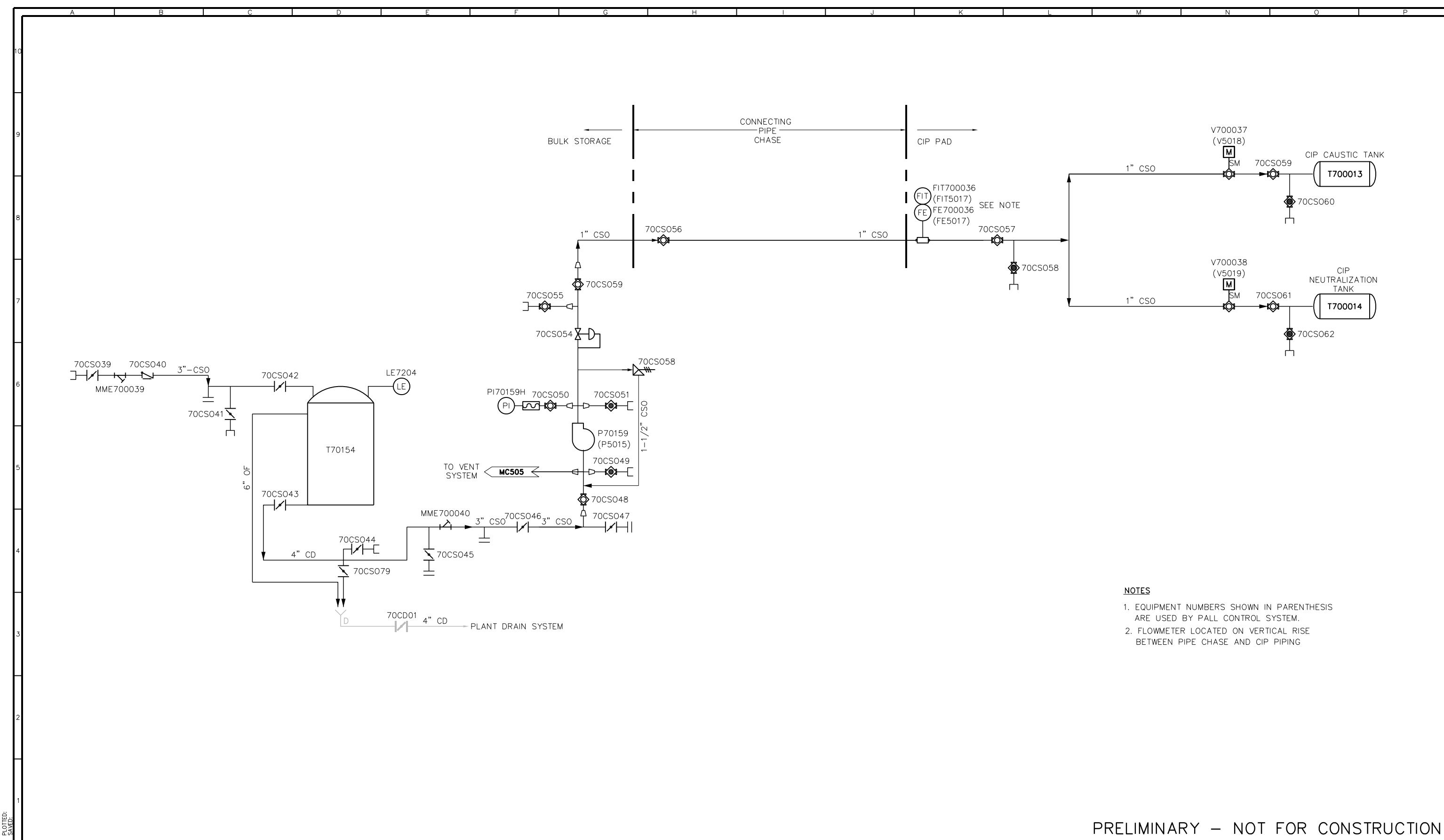
CITRIC ACID FEED SYSTEM

SCALE NO SCALE

DRAWING NUMBER **MC502**

SHEET NUMBER 81 OF 236





- NOTES**
- EQUIPMENT NUMBERS SHOWN IN PARENTHESIS ARE USED BY PALL CONTROL SYSTEM.
  - FLOWMETER LOCATED ON VERTICAL RISE BETWEEN PIPE CHASE AND CIP PIPING

PRELIMINARY – NOT FOR CONSTRUCTION

REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2" - SCALE ACCORDINGLY)

FILE FILE NAME

DRAWN TULLENSVANG

DESIGNED LZ

CHECKED LZ

TBD

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT WATER RECLAMATION FACILITY

PROCESS AND PIPING SCHEMATIC

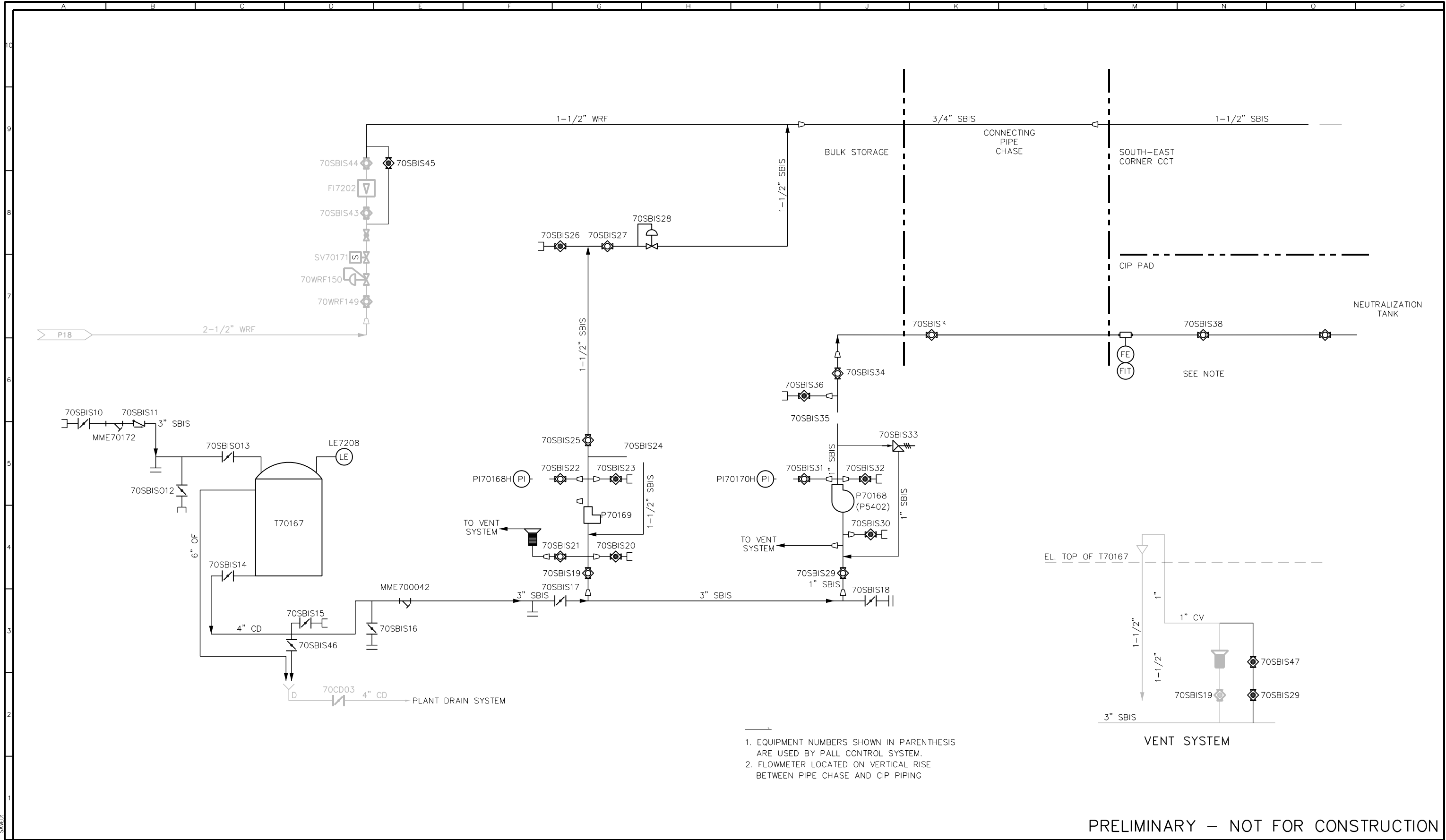
SODIUM HYDROXIDE FEED SYSTEM

SCALE NO SCALE


DRAWING NUMBER **MC503**

SHEET NUMBER 82 OF 236


FB0342202  
5/25/2012  
PLOTTED: 5/25/2012




PRELIMINARY – NOT FOR CONSTRUCTION




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REGISTERED PROFESSIONAL ENGINEER  
WILLIAM T. TULLENS  
NO. 68143  
EXP. 6-30-11  
CIVIL  
STATE OF CALIFORNIA



REGISTERED PROFESSIONAL ENGINEER  
LARRY J. ZACHARIAS  
NO. 6028688  
EXP. 6-30-11  
MECHANICAL  
STATE OF CALIFORNIA

REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2" - SCALE ACCORDINGLY)

FILE FILE NAME  
DRAWN TULLENSVANG  
DESIGNED LZ  
CHECKED LZ

TBD  
CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY

PROCESS AND PIPING SCHEMATIC

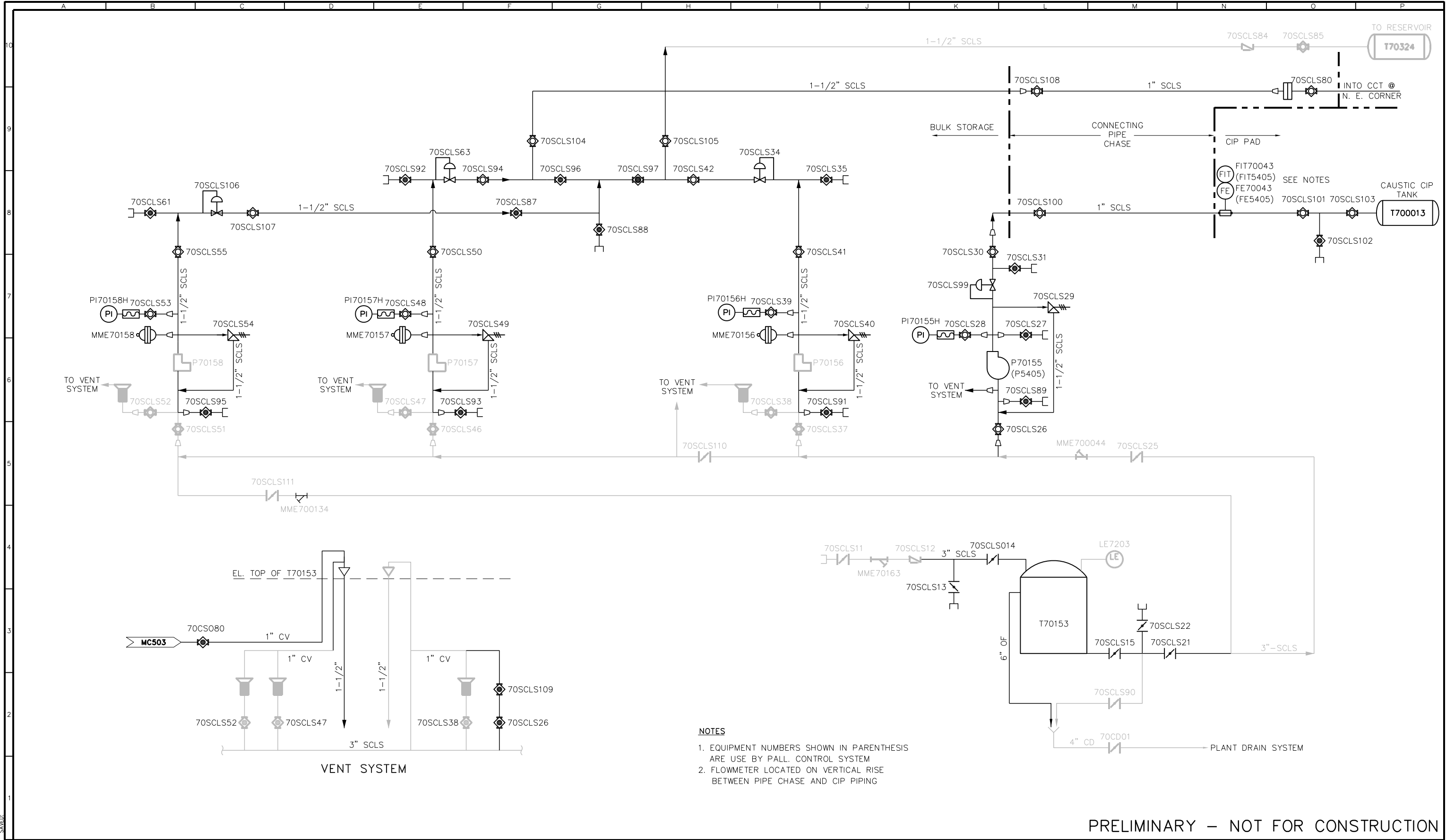
SODIUM BISULFITE FEED SYSTEM

SCALE  
NO SCALE

DRAWING NUMBER  
**MC504**

SHEET NUMBER  
83 OF 236

FB0342202  
S04542202  
PLOTTED:  
S04542202



- NOTES**
1. EQUIPMENT NUMBERS SHOWN IN PARENTHESIS ARE USE BY PALL. CONTROL SYSTEM
  2. FLOWMETER LOCATED ON VERTICAL RISE BETWEEN PIPE CHASE AND CIP PIPING

PRELIMINARY – NOT FOR CONSTRUCTION

FB0342202  
SUB: 342202

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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

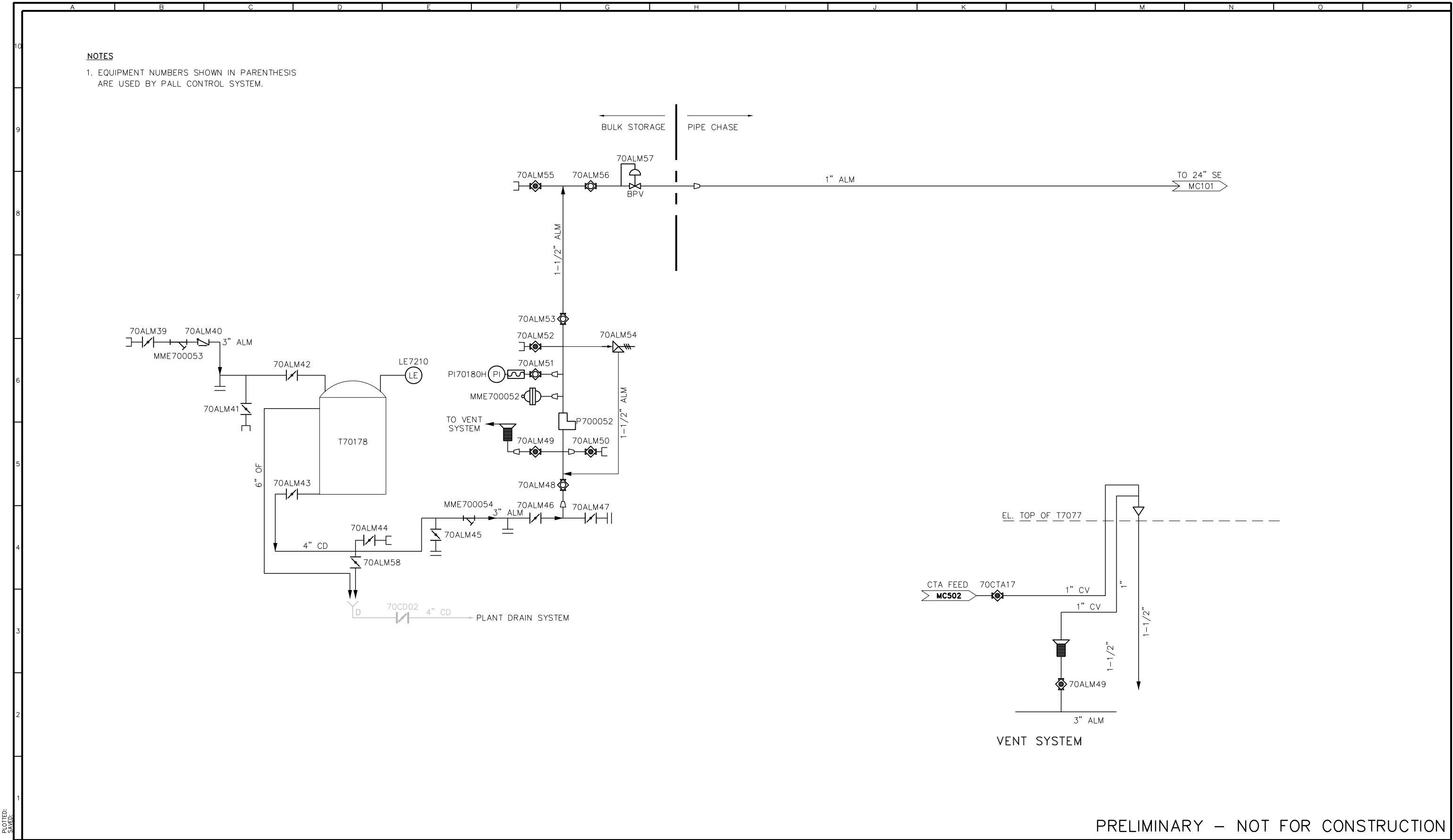
LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"=SCALE ACCORDINGLY)	
FILE	FILE NAME
DRAWN	TULLENSVANG
DESIGNED	LZ
CHECKED	LZ

TBD
CONTRACT NUMBER

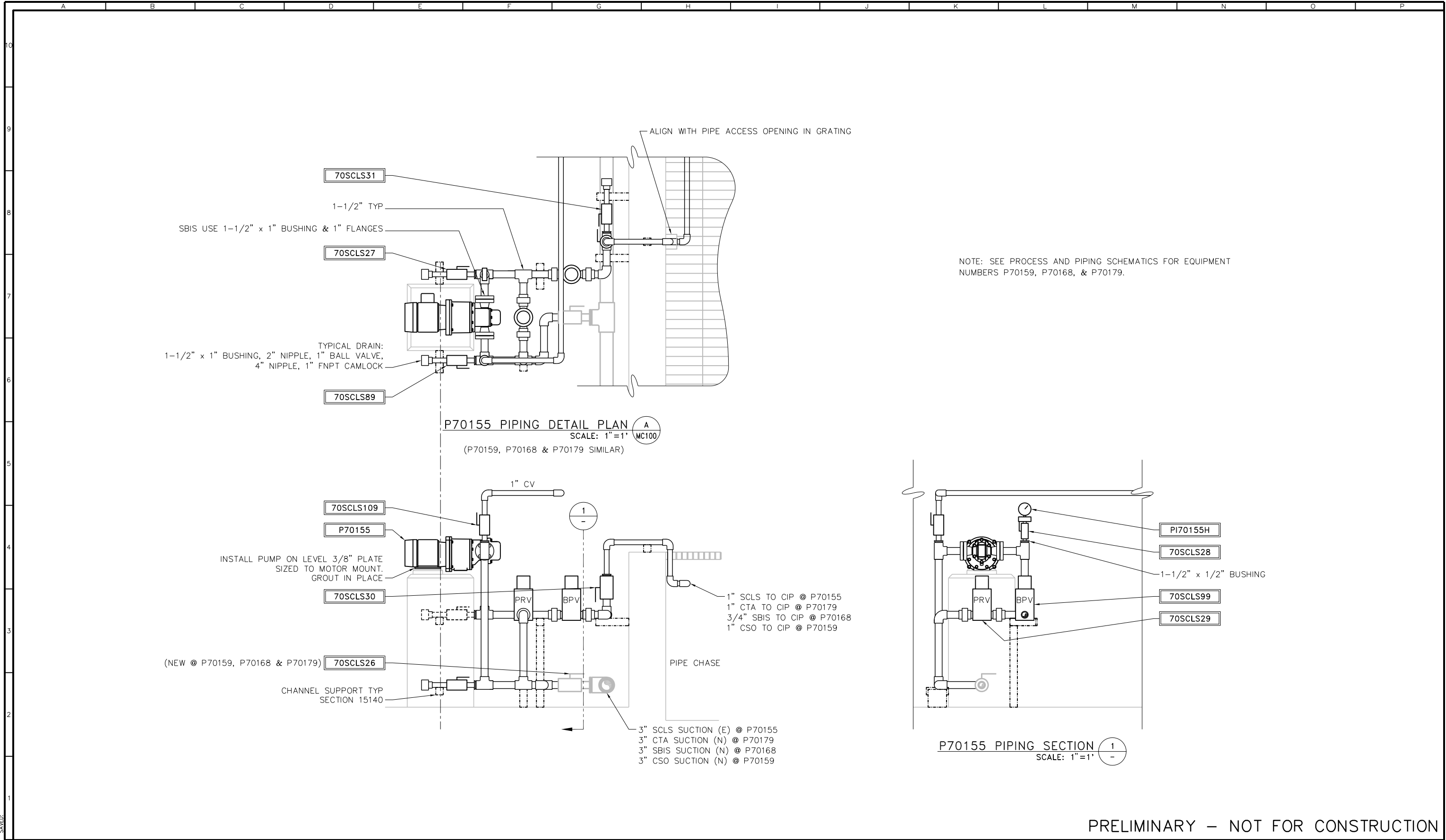
SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT OF SACRAMENTO COUNTY, CALIFORNIA
SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT WATER RECLAMATION FACILITY

PROCESS AND PIPING SCHEMATIC
SODIUM HYPOCHLORITE FEED SYSTEM

SCALE NO SCALE
DRAWING NUMBER MC505
SHEET NUMBER 84 OF 236



PRELIMINARY – NOT FOR CONSTRUCTION



PRELIMINARY – NOT FOR CONSTRUCTION

REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

FILE FILE NAME

DRAWN LZACHARIAS

DESIGNED LZ

CHECKED GL/DW

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"-SCALE ACCORDINGLY)

TBD  
CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY

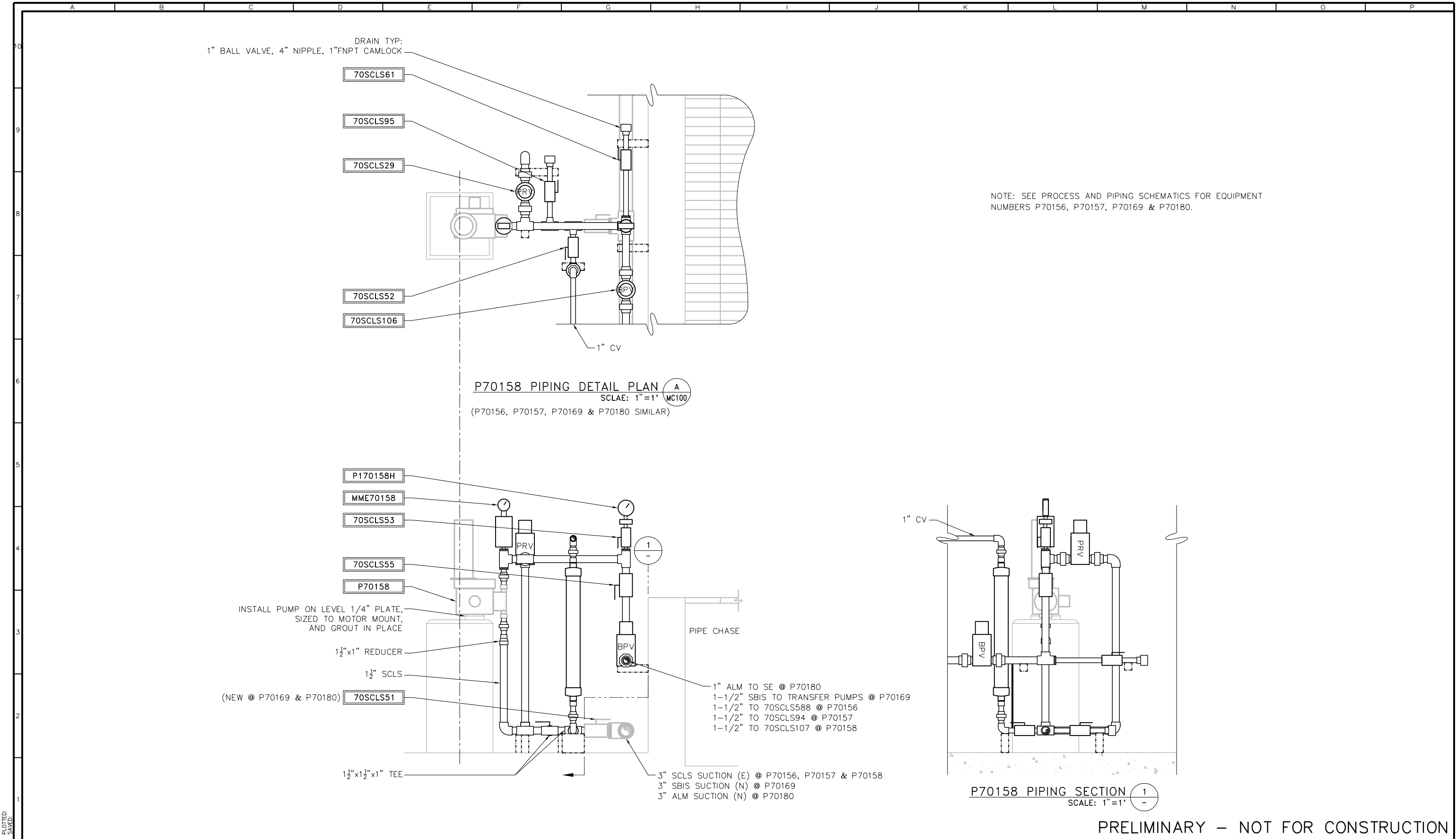
MECHANICAL

CHEMICAL STORAGE FACILITY  
METERING PUMP DETAILS

SCALE  
1" = 1'

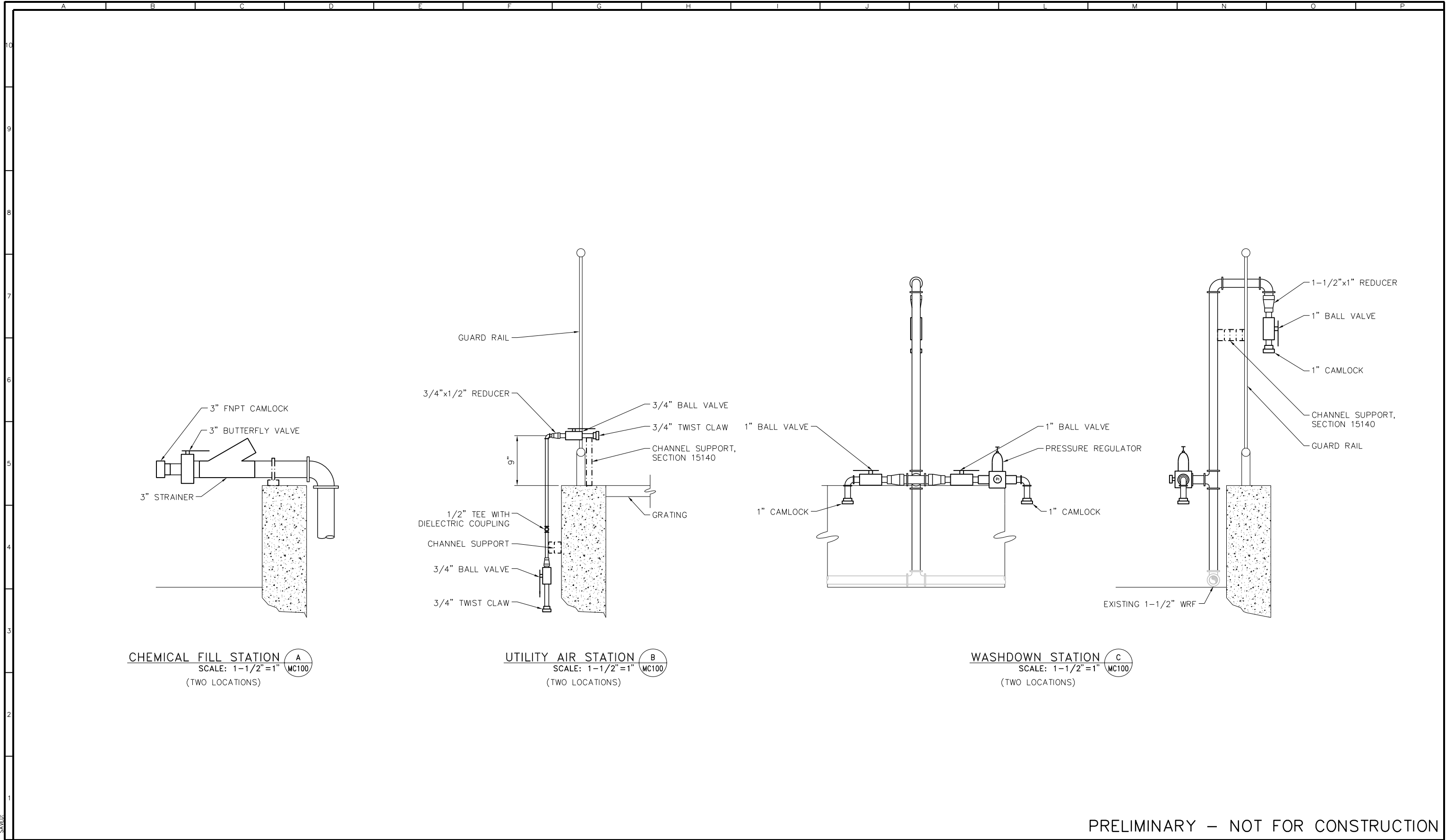
DRAWING NUMBER  
**MC507**

SHEET NUMBER  
86 OF 236




NOTE: SEE PROCESS AND PIPING SCHEMATICS FOR EQUIPMENT NUMBERS P70156, P70157, P70169 & P70180.


PRELIMINARY – NOT FOR CONSTRUCTION





PRELIMINARY – NOT FOR CONSTRUCTION



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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"-SCALE ACCORDINGLY)

FILE FILE NAME  
DRAWN TULLENSVANG  
DESIGNED LZ  
CHECKED GL/DW

TBD

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
AUXILIARY PIPING DETAILS

DETAIL

CHEMICAL STORAGE FACILITY  
AUXILIARY PIPING DETAIL

SCALE  
1-1/2"=1'

DRAWING NUMBER  
**MC509**

SHEET NUMBER  
88 OF 236

FB0342202  
B0342202  
PLOTTED:  
DATE:

PLOTTED: TUE0961, 1/14/2010, 8:30:02 AM  
 SAVED: THU0961, 1/14/2010, 7:45:41 AM

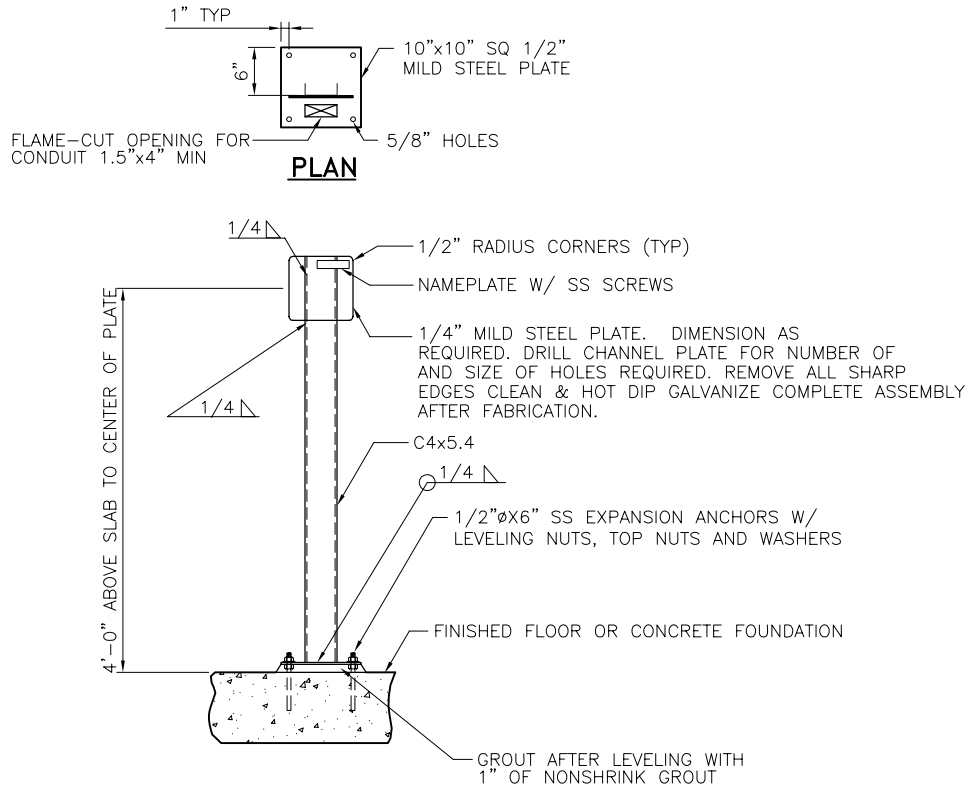
F00342202  
 BDR342202

ELECTRICAL ABBREVIATIONS																
THE FOLLOWING LIST IS IN ADDITION TO THOSE ABBREVIATIONS DEFINED ON OTHER DRAWINGS																
ABBREVIATION		DEFINITION		ABBREVIATION		DEFINITION		ABBREVIATION		DEFINITION		ABBREVIATION		DEFINITION		
A	AMPERES, AMMETER	FA	FORCED AIR COOLED	M	MOTOR, MOTOR CONTACTOR	SCR	SILICON CONTROLLED RECTIFIER (D–C DRIVE)	Z	IMPEDANCE							
AC	ALTERNATING CURRENT	FDR	FEEDER	MA	MILLIAMPERE			ZS	POSITION (LIMIT) SWITCH							
AF	AMPERE FRAME	FIN	FINISHED	MAX	MAXIMUM	SCH	SCHEDULE									
AFF	ABOVE FINISHED FLOOR	FLEX	FLEXIBLE	MCC	MOTOR CONTROL CENTER	SEC	SECONDARY, SECONDS									
AIC	AMPERES INTERRUPTING CAPACITY	FM	FREQUENCY METER	MCP	MOTOR CIRCUIT PROTECTOR	SEL	SELECTOR									
AL	ALUMINUM	FS	FLOW SWITCH	MCM	THOUSAND CIRCULAR MILLS	SH	SHIELDED									
AR	ALARM RELAY	FUT	FUTURE	MH	MANHOLE	SP	SET POINT, SINGLE POLE									
AS	AMMETER SELECTOR SWITCH	FVNR	FULL VOLTAGE NON REVERSING	MIN	MINIMUM	SPEC	SPECIFICATIONS									
AT	AMPERE TRIP	FVR	FULL VOLTAGE REVERSING	MOV	MOTOR OPERATED VALVE	SPDT	SINGLE POLE DOUBLE THROW									
AUTO.	AUTOMATIC			MPC	MINI–POWER CENTER	SPST	SINGLE POLE SINGLE THROW									
AUX	AUXILIARY			MR	MOTOR CONTACTOR RELAY	ST	SHORT TIME									
AWG	AMERICAN WIRE GAUGE			MTD	MOUNTED	S/S	SELECTOR SWITCH									
				MTG HT	MOUNTING HEIGHT	SUB	SUBSTATION									
				MTR	MOTOR	SV	SOLENOID VALVE									
				MV	MILLIVOLTS	SW	SWITCH									
						SBD	SWITCHBOARD									
						SWR	SWITCHGEAR									



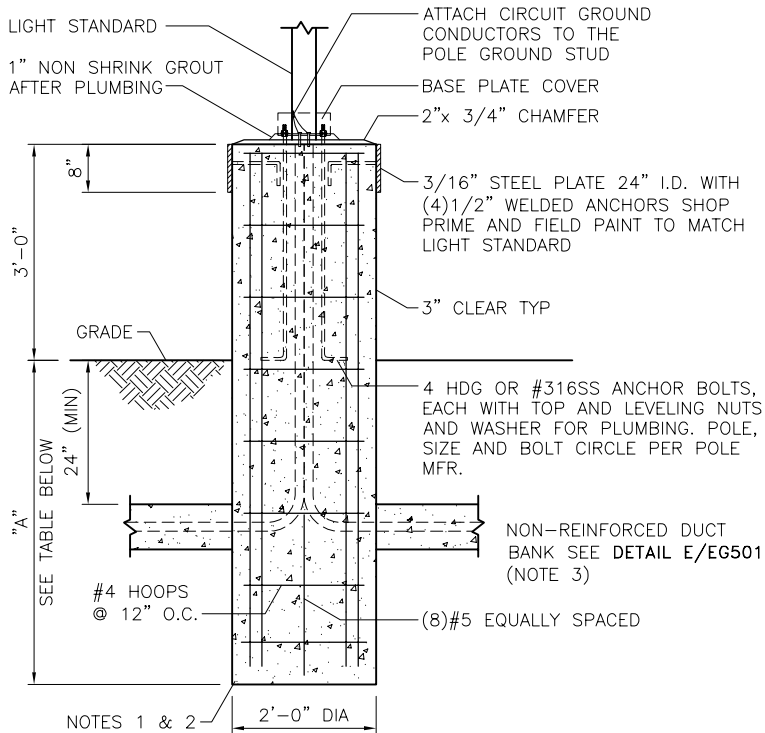


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TYPICAL DEVICE STANCHION

DETAIL A  
 NO SCALE TYP



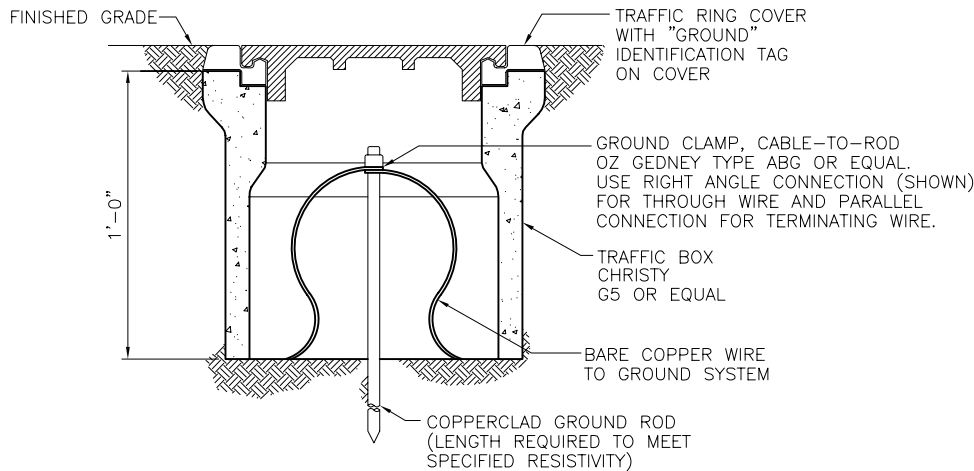
NOTES:

1. FOUNDATION TO BEAR AGAINST ORIGINAL SOIL OR 95% COMPACTED BACKFILL PER SECTION 02200.
2. CLASS 1 CONCRETE PER SECTION 03300.
3. OMIT THE DUCT BANK GROUND CONDUCTOR ON FIXTURE CIRCUITS.

POLE HEIGHT	EMBEDMENT "A"
10'-0"	4'-6"
20'-0"	6'-6"
30'-0"	8'-6"
40'-0"	11'-0"

LIGHT STANDARD BASE

DETAIL C  
 NO SCALE VAR



GROUND WELL AND ROD

DETAIL B  
 NO SCALE VAR

Terada Engineering, Inc.  
 1570 The Alameda  
 Suite 221  
 San Jose, California 95126  
 (408) 294-1445

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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES  
 AT FULL SIZE  
 (IF NOT 2"-SCALE ACCORDINGLY)

FILE EG500  
 DRAWN L. R. CASTILLO  
 DESIGNED R. TERADA  
 CHECKED

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
 SANITATION DISTRICT  
 OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
 WASTEWATER TREATMENT PLANT  
 WATER RECLAMATION FACILITY  
 EXPANSION PROJECT - PHASE II

ELECTRICAL

CONSTRUCTION DETAILS 1

SCALE

NONE

DRAWING NUMBER

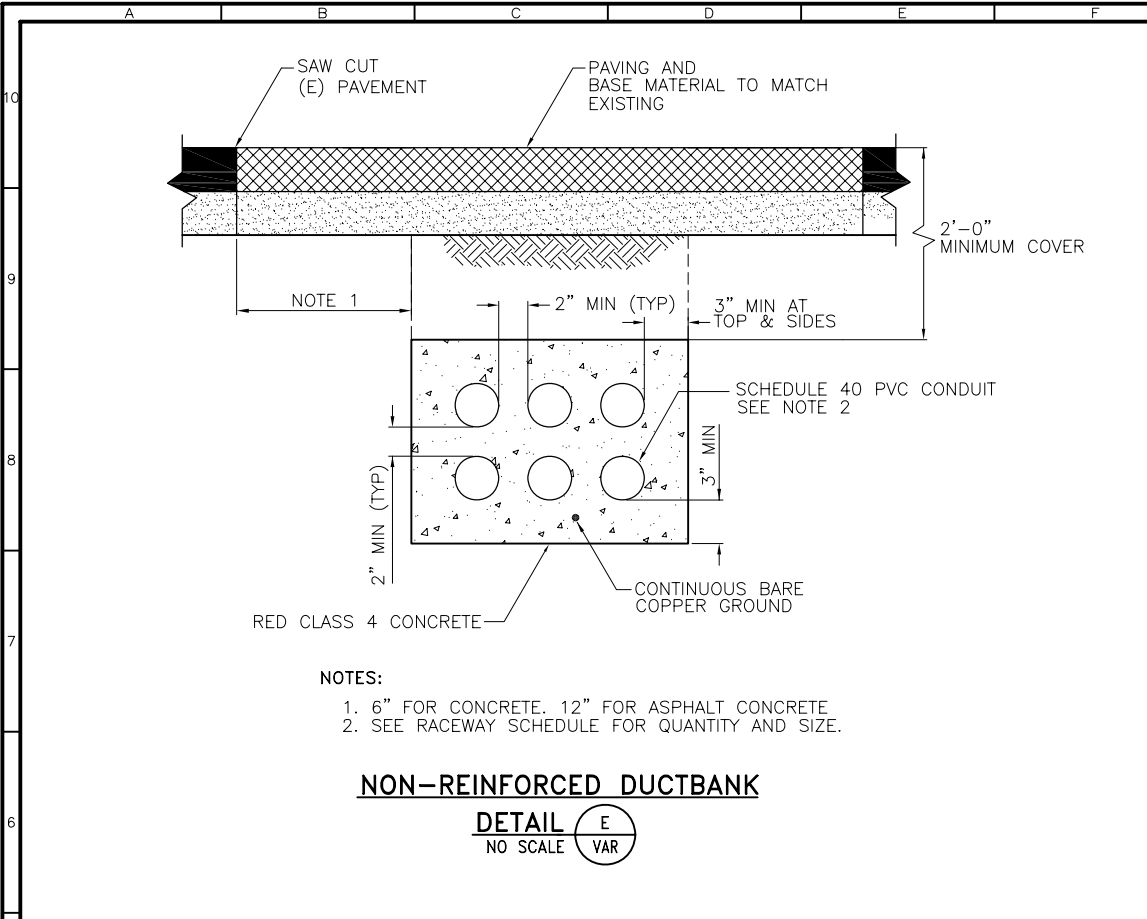
EG500

SHEET NUMBER

92 OF 236

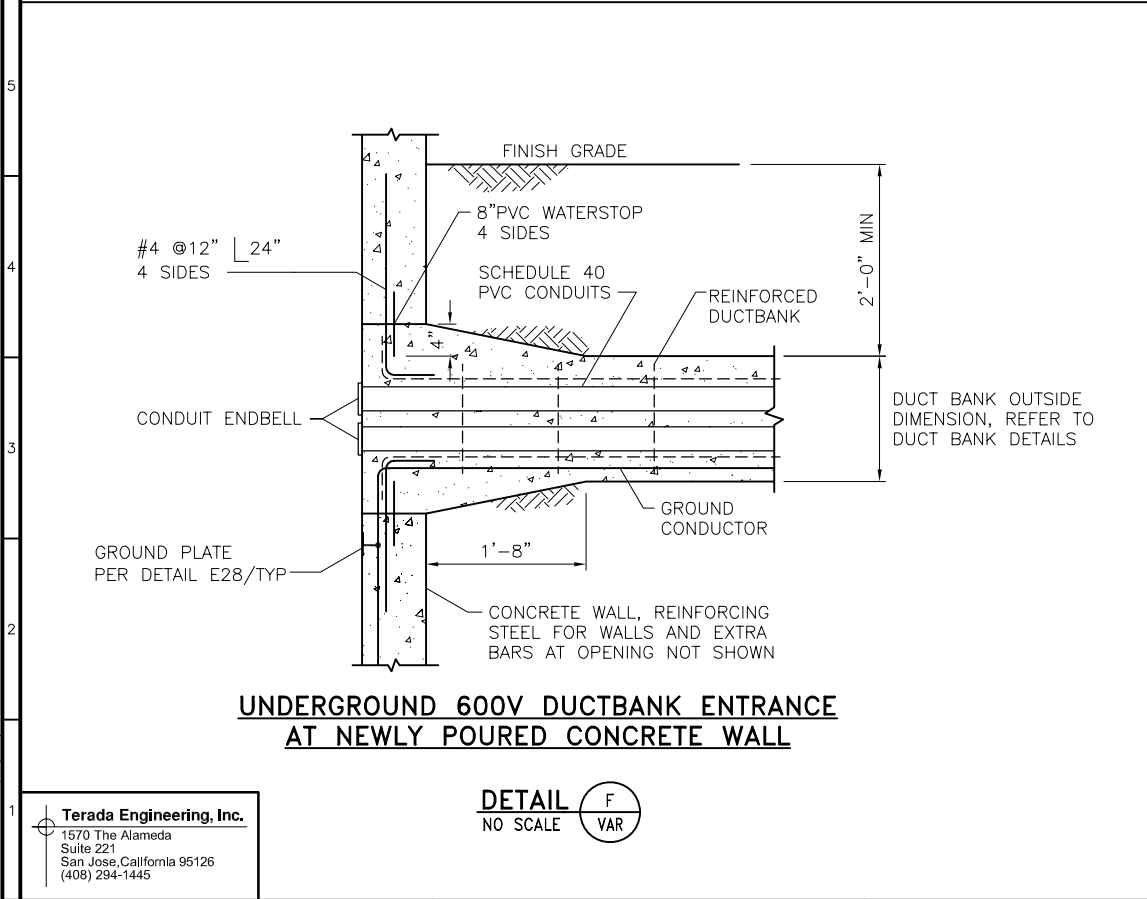
PRELIMINARY - NOT FOR CONSTRUCTION

PLOTTED: T:\40961\_1\14/2010\_8:26:29 AM  
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 F:\B342202  
 BDR342202



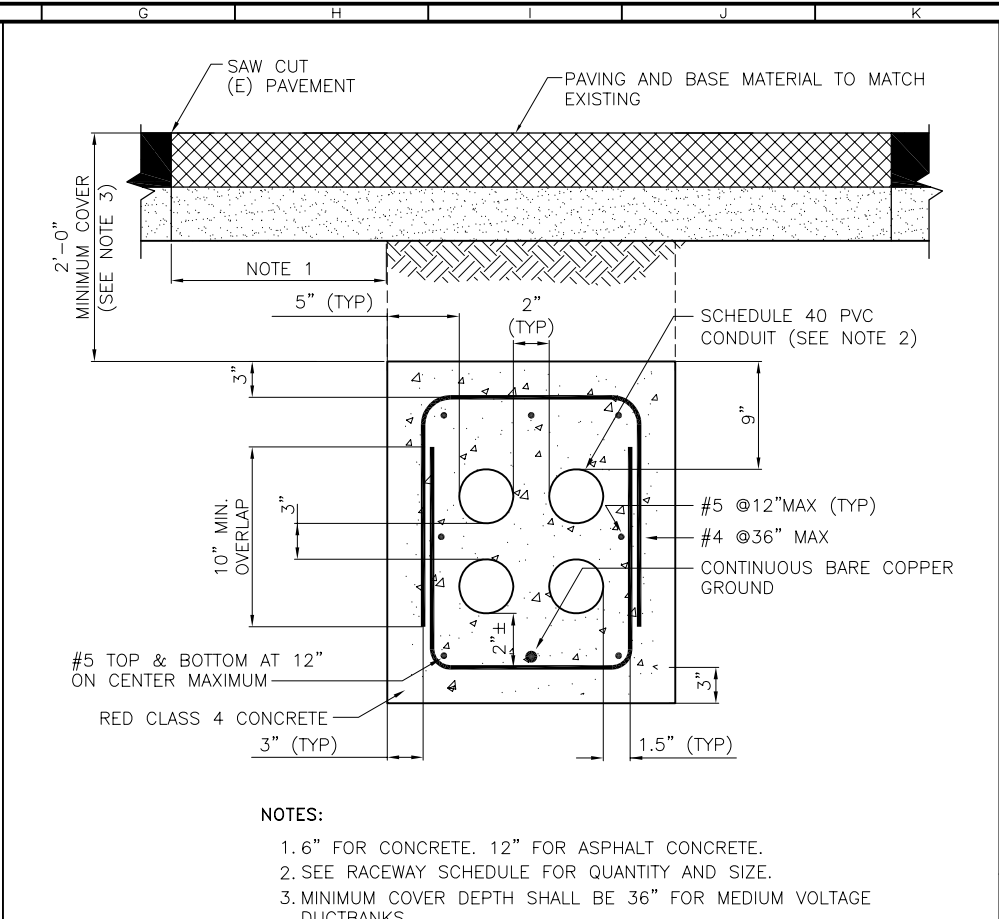
NON-REINFORCED DUCTBANK

DETAIL E  
NO SCALE VAR



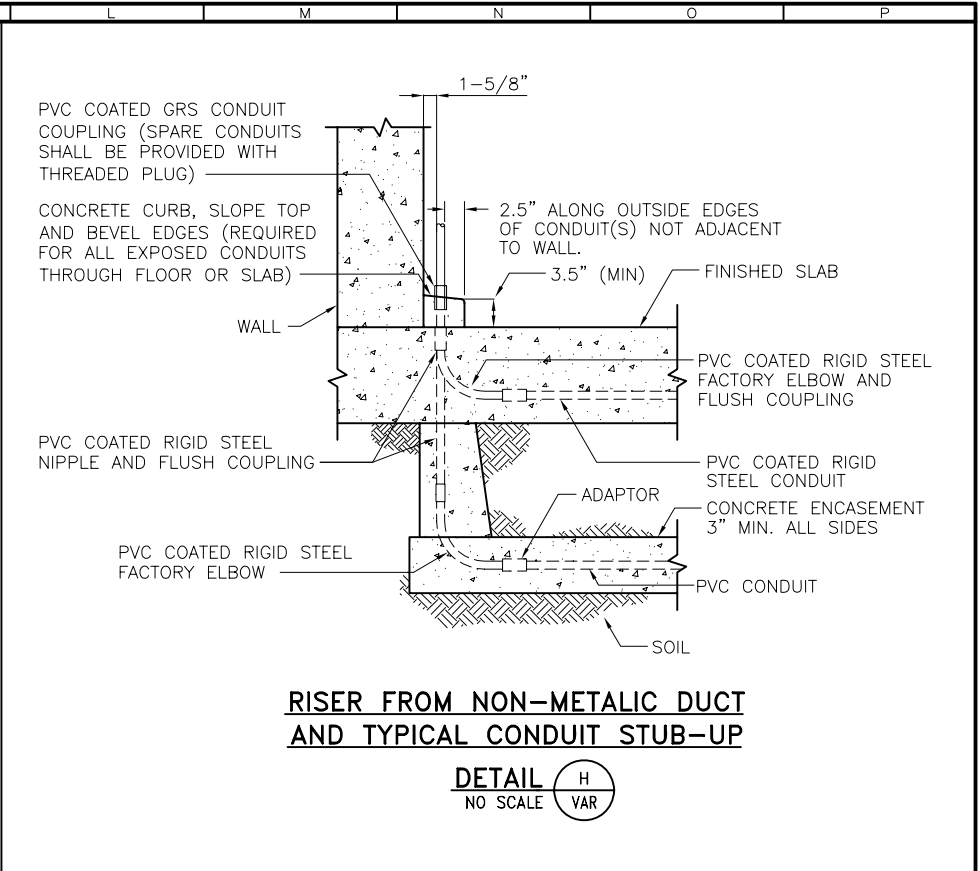
UNDERGROUND 600V DUCTBANK ENTRANCE  
AT NEWLY POURED CONCRETE WALL

DETAIL F  
NO SCALE VAR



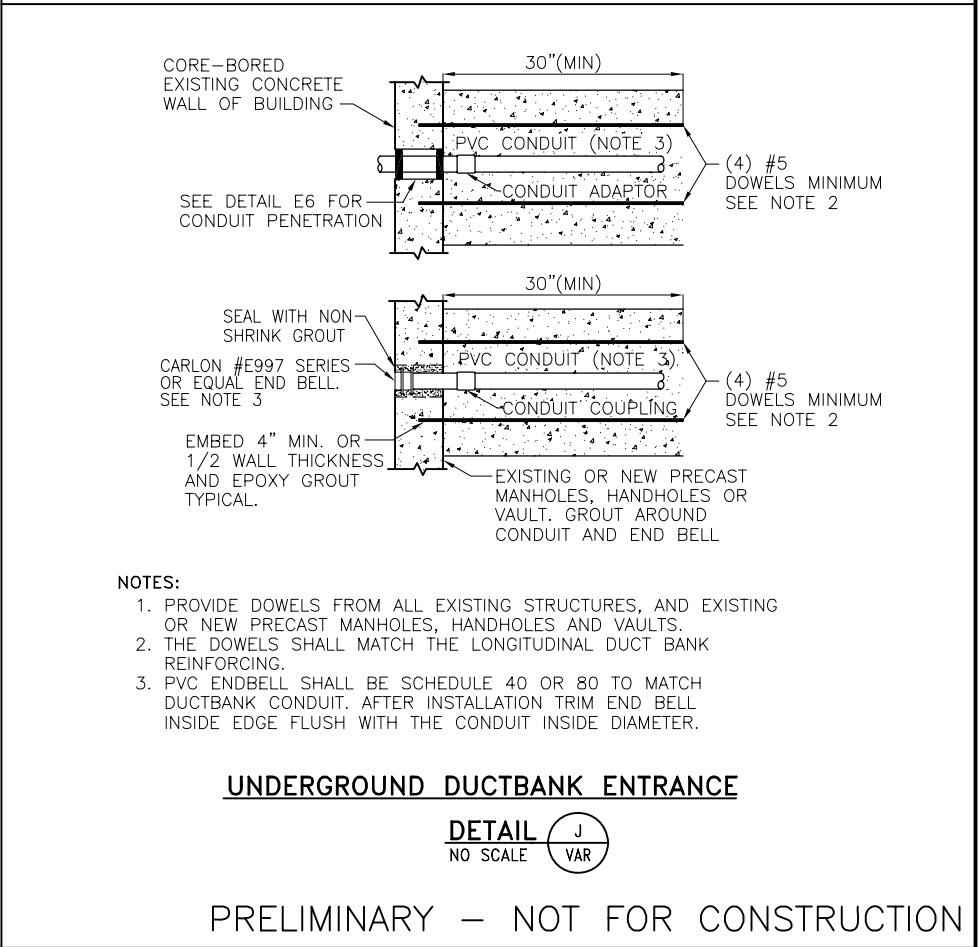
REINFORCED DUCTBANK

DETAIL G  
NO SCALE VAR



RISER FROM NON-METALIC DUCT  
AND TYPICAL CONDUIT STUB-UP

DETAIL H  
NO SCALE VAR



UNDERGROUND DUCTBANK ENTRANCE

DETAIL J  
NO SCALE VAR

PRELIMINARY – NOT FOR CONSTRUCTION

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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"-SCALE ACCORDINGLY)

FILE EG501  
DRAWN L. R. CASTILLO  
DESIGNED R. TERADA  
CHECKED

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT – PHASE II

ELECTRICAL

CONSTRUCTION DETAILS 2

SCALE

NONE

DRAWING NUMBER

EG501

SHEET NUMBER

93 OF 236

PLOTTED: T:\40961\_1\14/2010\_8:25:37 AM  
 SAVER: T:\40961\_1\14/2010\_7:51:17 AM  
 BDR342202

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 1570 The Alameda  
 Suite 221  
 San Jose, California 95126  
 (408) 294-1445

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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)	
FILE	EG502
DRAWN	L. R. CASTILLO
DESIGNED	R. TERADA
CHECKED	

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
 SANITATION DISTRICT  
 OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
 WASTEWATER TREATMENT PLANT  
 WATER RECLAMATION FACILITY  
 EXPANSION PROJECT – PHASE II

ELECTRICAL

CONSTRUCTION DETAILS 3

SCALE

NONE

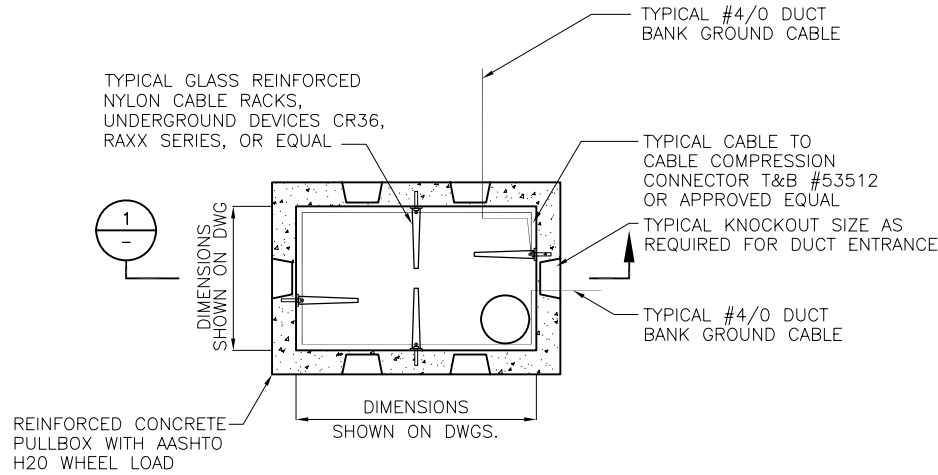
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EG502

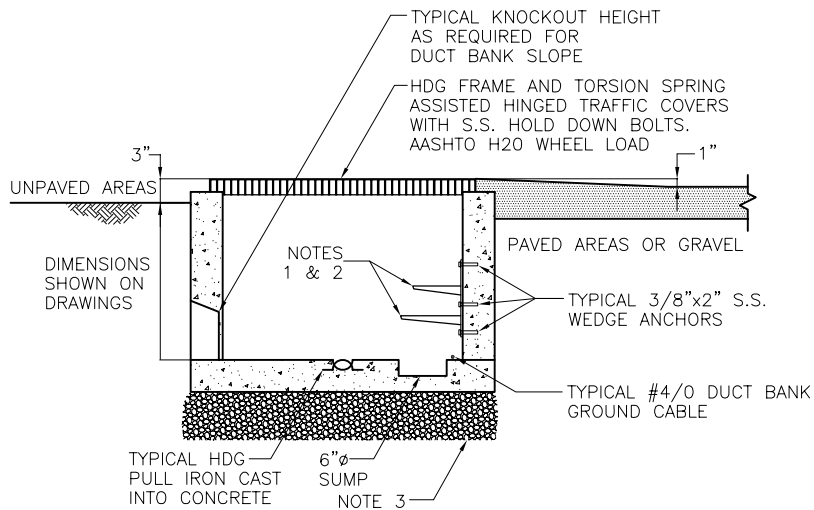
SHEET NUMBER

94 OF 236

PRELIMINARY – NOT FOR CONSTRUCTION



PLAN

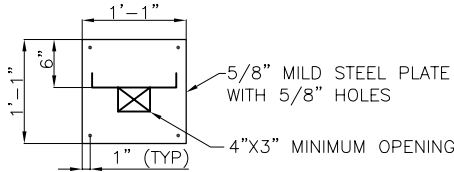


SECTION 1  
NO SCALE

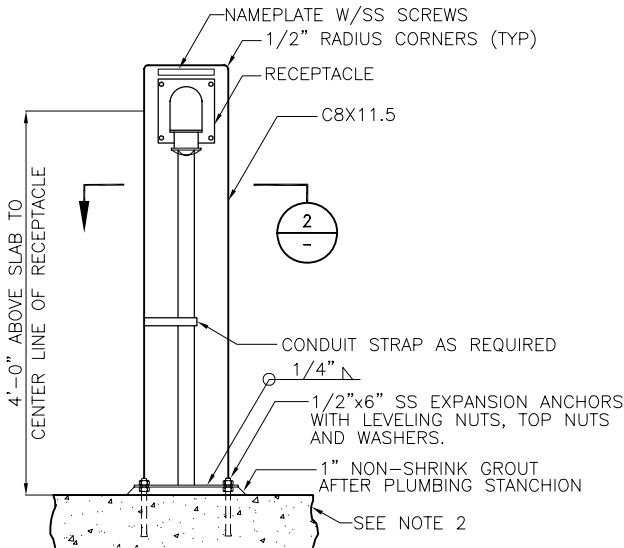
- NOTES:
1. INSTALL SIGNAL AND POWER CONDUCTORS ON SEPARATE RACKS
  2. CONDUCTORS SHALL BE TY WRAPPED INTO CIRCUIT GROUPS
  3. INSTALL ON A 6" BED OF TYPE E, F OR G MATERIAL PER SS02200

TYPICAL HANDHOLE

DETAIL K  
NO SCALE



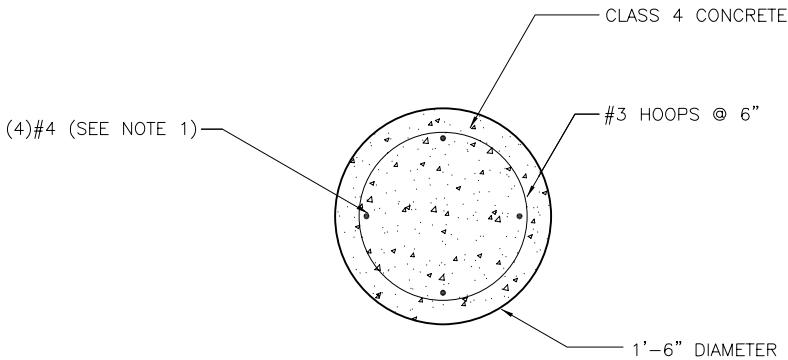
SECTION 2  
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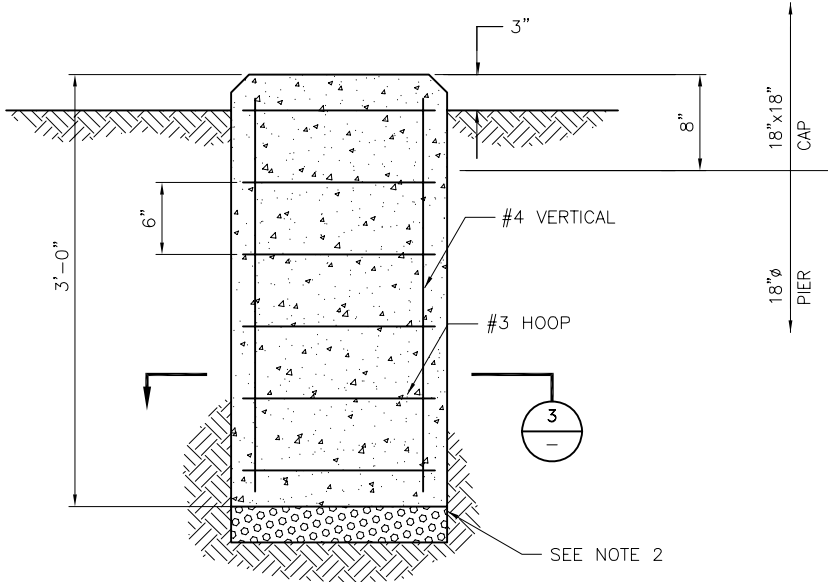
- NOTES:
1. DRILL FOR DEVICE MOUNTING HOLES AS REQUIRED.
  2. CONSTRUCT 1'-6"Ø x 3'-0" DEEP CONCRETE FOUNDATION WHERE CONCRETE SURFACE IS NOT AVAILABLE. SEE DETAIL M/-.
  3. USE 304 SS HARDWARE FOR DEVICE MOUNTING.
  4. GRIND SHARP EDGES AND HOT DIP GALVANIZE AFTER FABRICATION.

480V, 3"Ø RECEPTACLE STANCHION

DETAIL L  
NO SCALE



SECTION 3  
NO SCALE

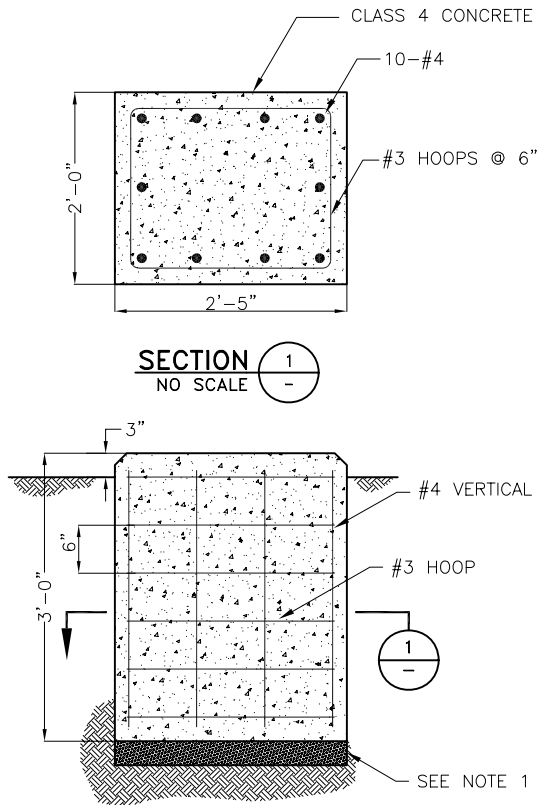


- NOTES:
1. LOCATE #4 VERTICALS AT SQUARE CORNER POSITIONS.
  2. INSTALL 3" OF TYPE F MATERIAL COMPACTED TO 95%.

REINFORCED CONCRETE BASE

DETAIL M  
NO SCALE

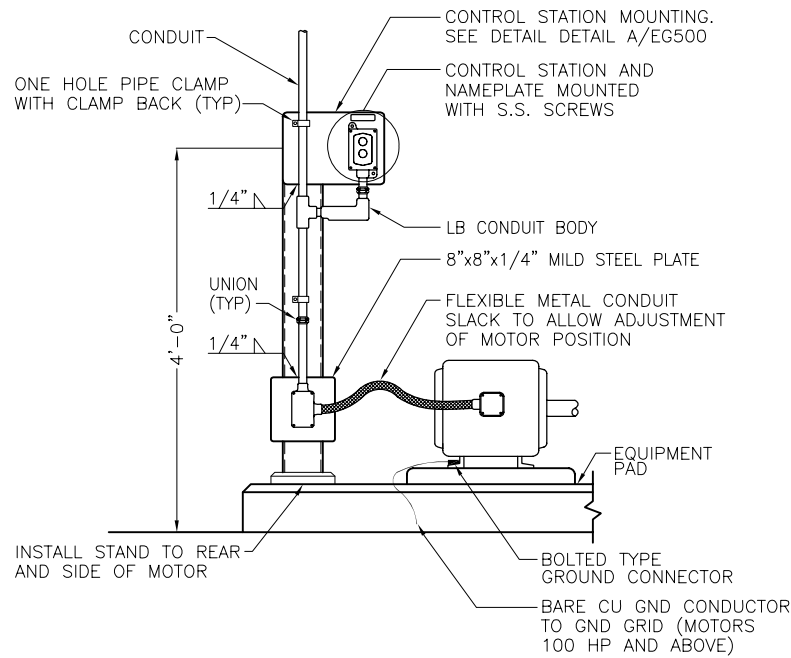
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 BDR342202



NOTE:  
1. INSTALL 3" OF TYPE F MATERIAL COMPACTED TO 95%.

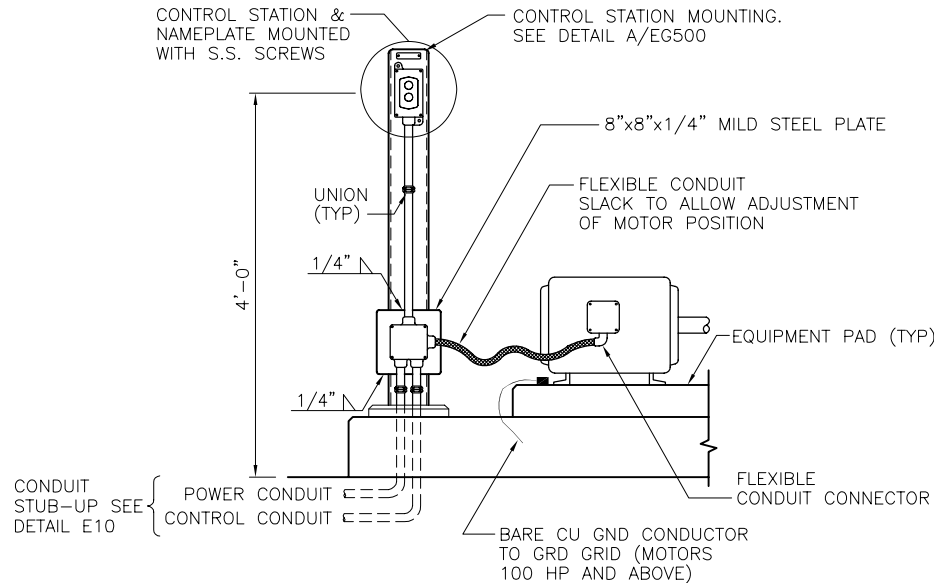
REINFORCED CONCRETE BASE

DETAIL P  
NO SCALE VAR



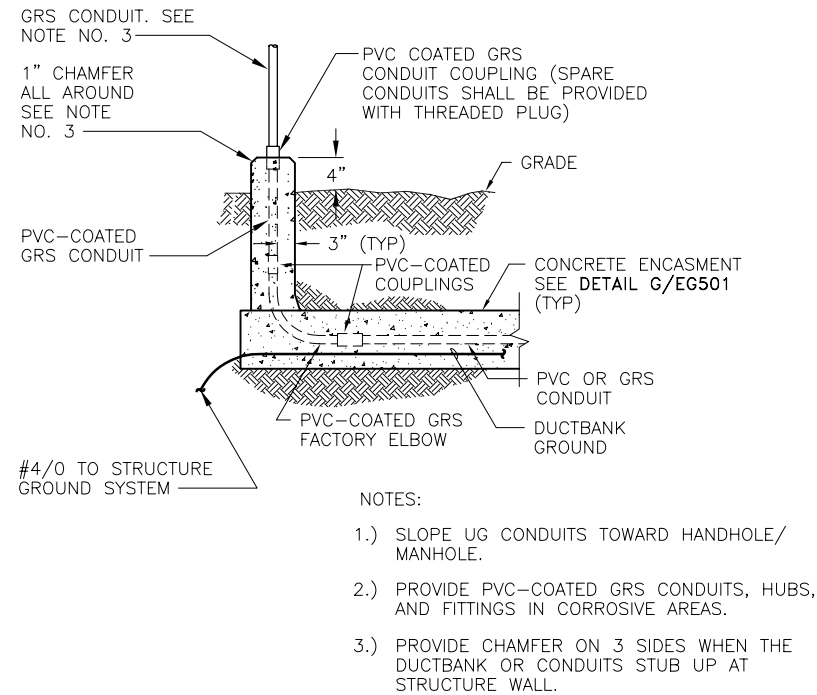
MOTOR FEED FROM OVERHEAD

DETAIL Q  
NO SCALE VAR



LOW VOLTAGE FEED FROM BELOW SLAB  
POWER AND CONTROL CONDUITS

DETAIL R  
NO SCALE VAR



DUCTBANK STUB-UP

DETAIL S  
NO SCALE VAR

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SRCS D



REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES  
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(IF NOT 2"-SCALE ACCORDINGLY)

FILE EG503  
DRAWN L. R. CASTILLO  
DESIGNED R. TERADA  
CHECKED

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT — PHASE II

ELECTRICAL

CONSTRUCTION DETAILS 4

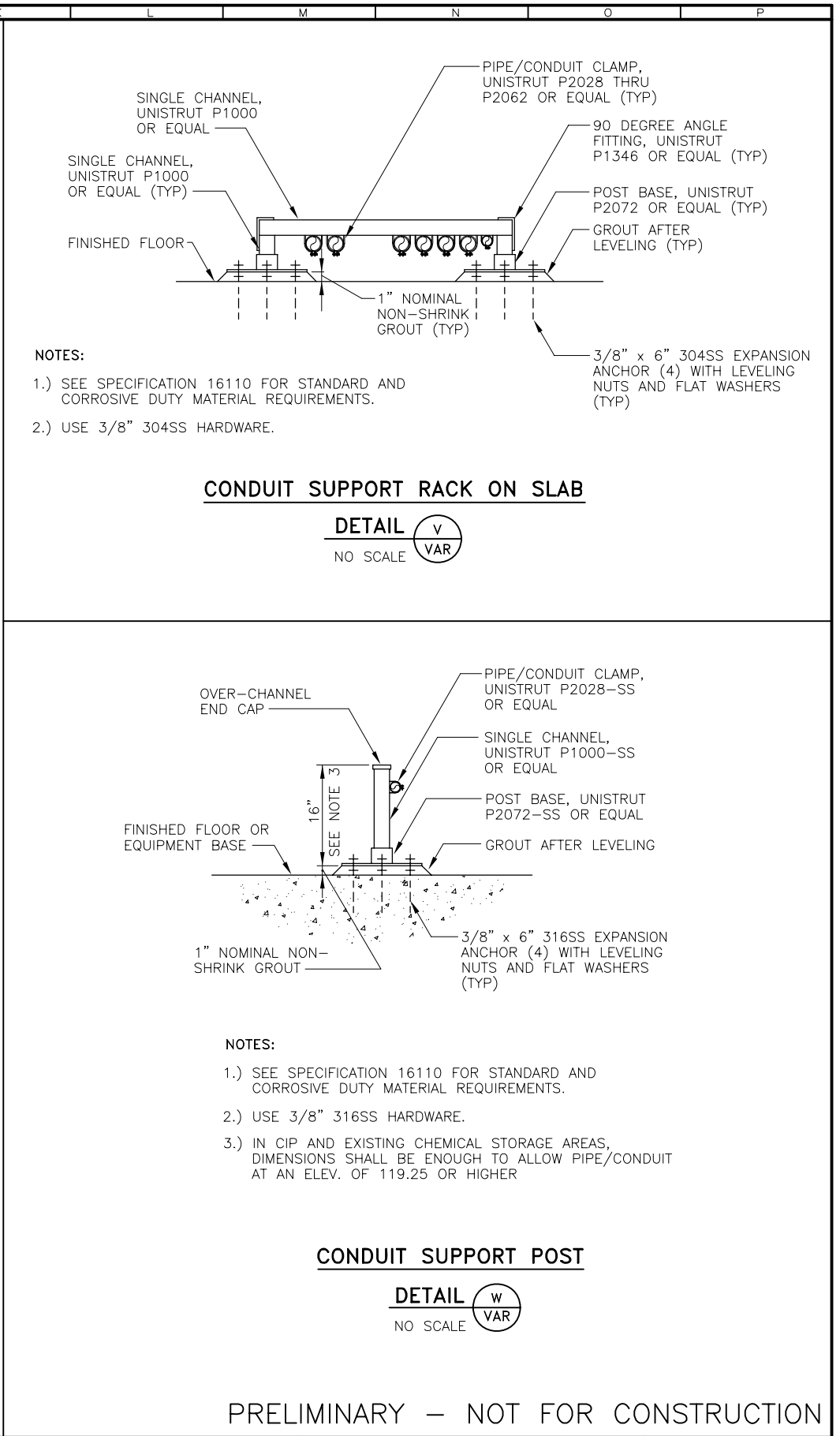
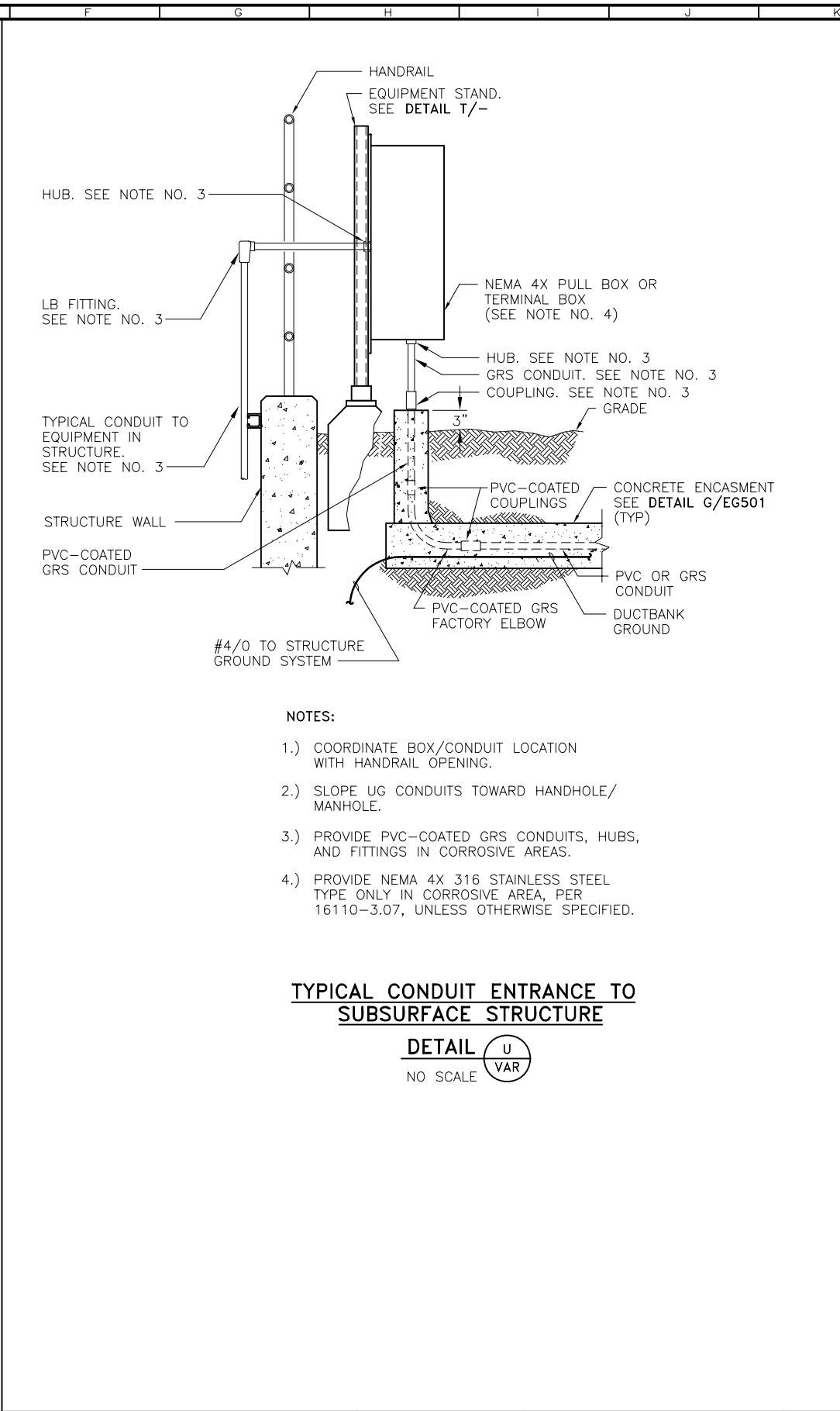
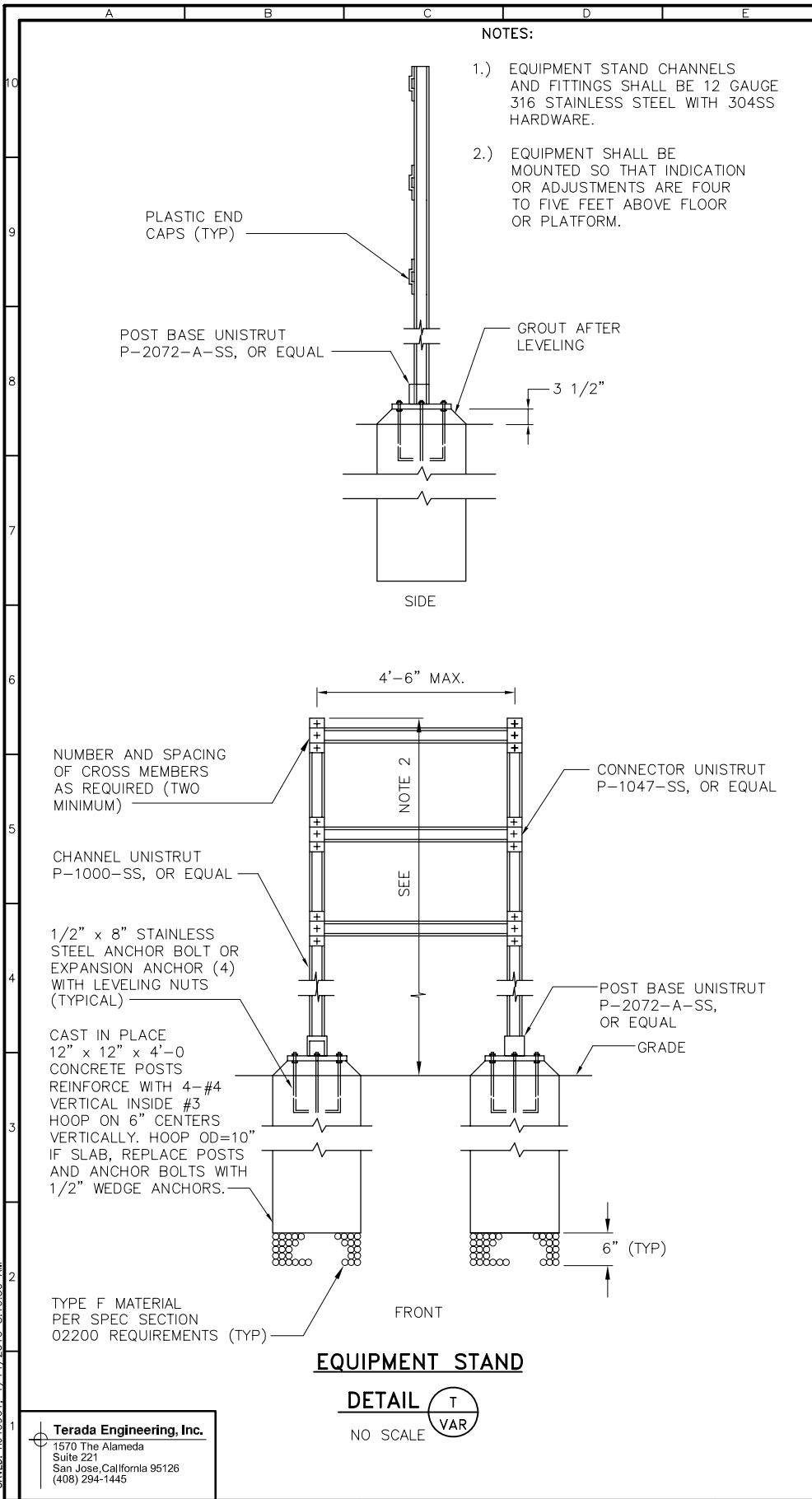
SCALE  
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DRAWING NUMBER  
EG503

SHEET NUMBER  
95 OF 236

PLOTTED: TUC0961, 1/14/2010, 8:23:41 AM  
 SAVED: TUC0961, 1/14/2010, 8:10:50 AM

F008342202  
 BDR342202



REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)	
FILE	EG504
DRAWN	L. R. CASTILLO
DESIGNED	R. TERADA
CHECKED	

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
 SANITATION DISTRICT  
 OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
 WASTEWATER TREATMENT PLANT  
 WATER RECLAMATION FACILITY  
 EXPANSION PROJECT – PHASE II

ELECTRICAL

CONSTRUCTION DETAILS 5

SCALE

NONE

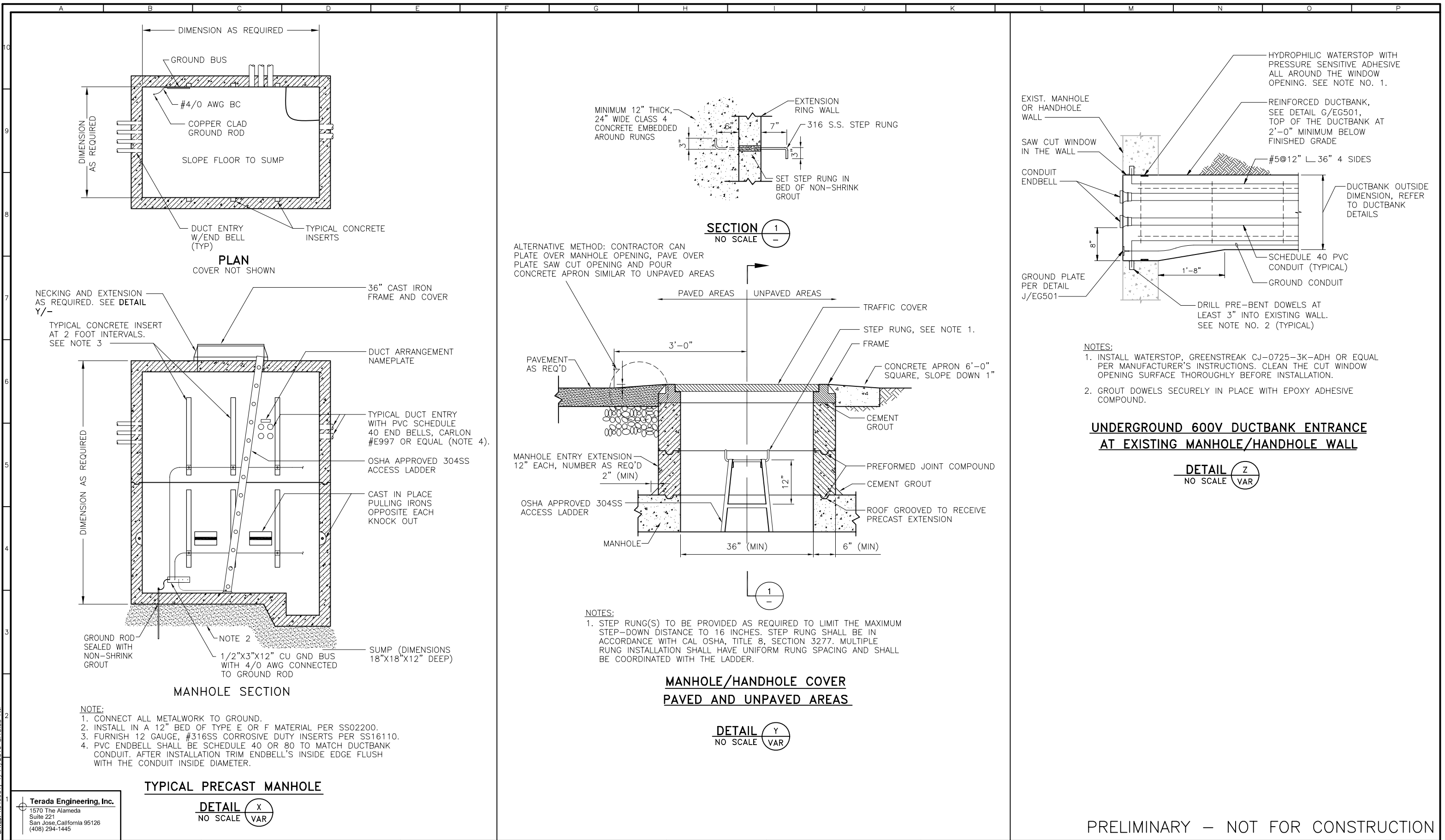
DRAWING NUMBER

EG504

SHEET NUMBER

96 OF 236

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 SAVED: T:\40961\_1\14\2010\_8\13:55 AM  
 F:\B34202  
 BDR34202



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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)

FILE **EG505**  
DRAWN **L. R. CASTILLO**  
DESIGNED **R. TERADA**  
CHECKED \_\_\_\_\_

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT — PHASE II

ELECTRICAL

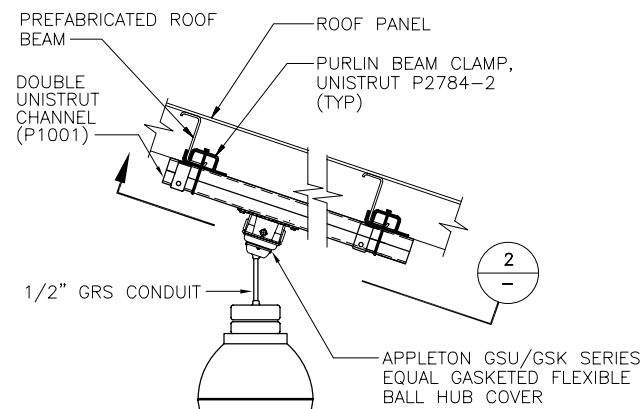
CONSTRUCTION DETAILS 6

SCALE  
NONE

DRAWING NUMBER  
**EG505**

SHEET NUMBER  
97 OF 236

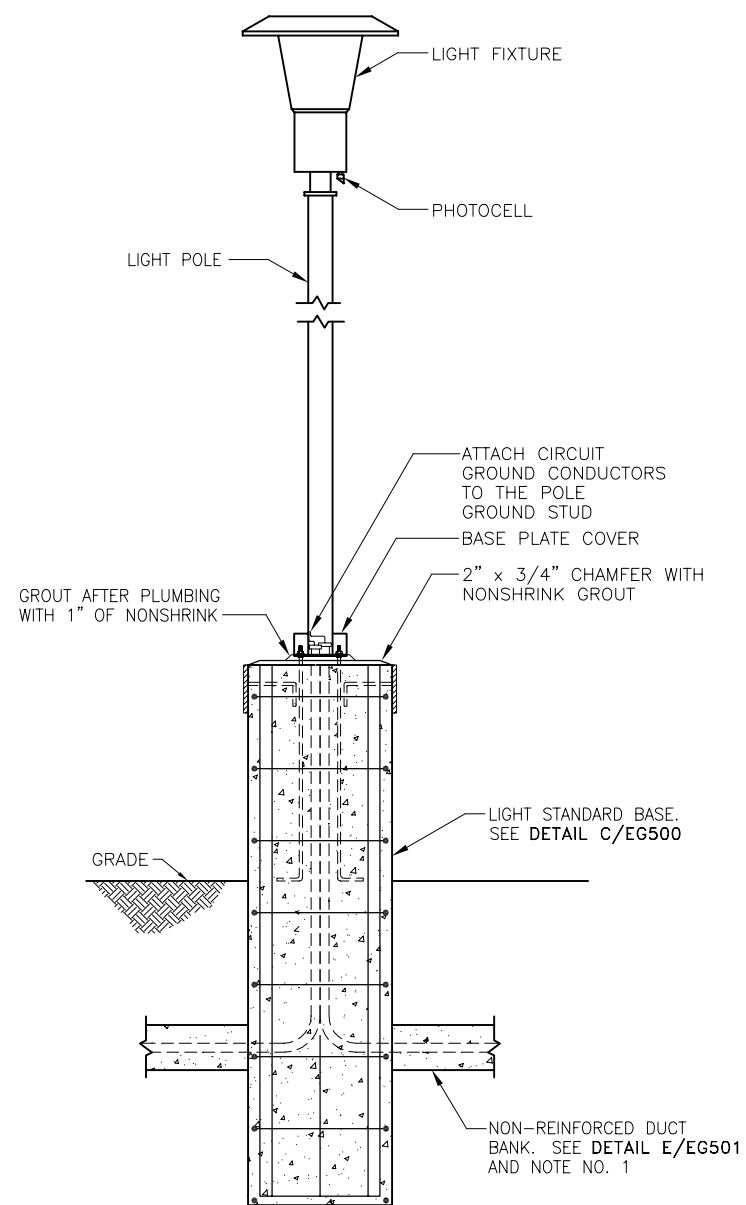




2. ROUTE THE CONDUIT TO THE NEAREST PURLIN OR STRUT.

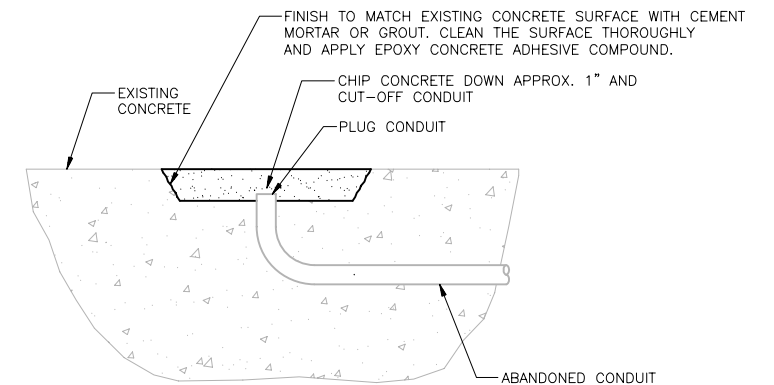
DETAIL  
NO SCALE

AA  
EG114



1.) OMIT THE DUCT BANK GROUND CONDUCTOR ON FIXTURE CIRCUITS.

DETAIL AB  
NO SCALE VAR



DETAIL   
NO SCALE



REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP
	C	100% SUBMITTAL		01/10	

FILE	EG506
DRAWN	G. TIJERO
DESIGNED	R. TERADA
CHECKED	

CONTRACT NUMBER

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT – PHASE II

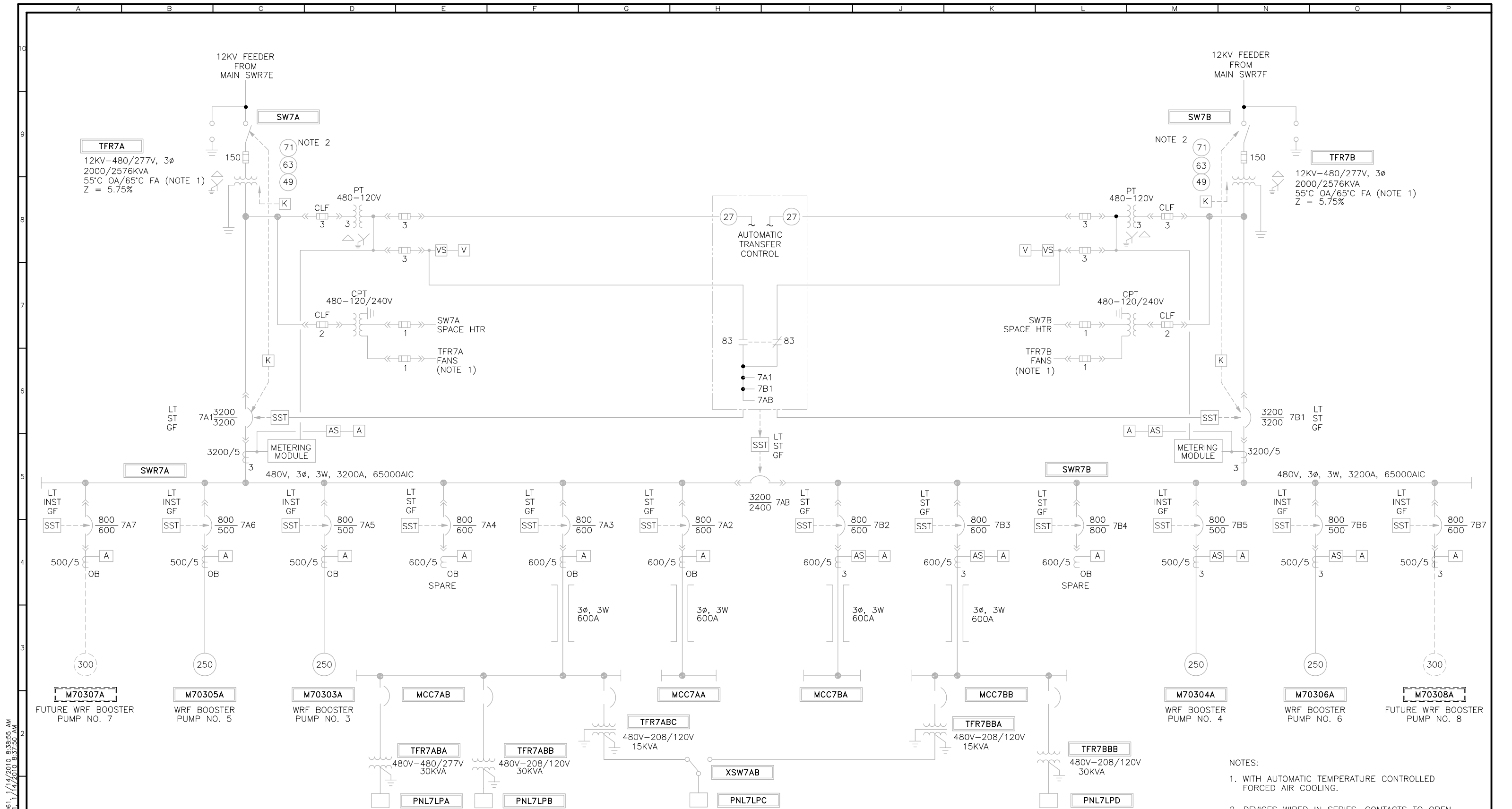
CONSTRUCTION DETAILS 7

98 of 236

PLOTTED: TIJ40961, 1/14/2010 8:33:11 AM  
 SAVED: TIJ40961, 1/14/2010 8:33:06 AM

FBDR3422D2  
BDR3422D2





SINGLE LINE DIAGRAM

- NOTES:
- 1. WITH AUTOMATIC TEMPERATURE CONTROLLED FORCED AIR COOLING.
  - 2. DEVICES WIRED IN SERIES. CONTACTS TO OPEN ON ABNORMAL (ALARM) CONDITION.

PRELIMINARY – NOT FOR CONSTRUCTION

PLOTTED: T140961\_1/14/2010 8:38:55 AM  
SAVED: T140961\_1/14/2010 8:37:50 AM

**Terada Engineering, Inc.**  
1570 The Alameda  
Suite 221  
San Jose, California 95126  
(408) 294-1445



REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"-SCALE ACCORDINGLY)

FILE **EG600**  
DRAWN **R. TERADA**  
DESIGNED **R. TERADA**  
CHECKED \_\_\_\_\_

CONTRACT NUMBER \_\_\_\_\_

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT – PHASE II

ELECTRICAL

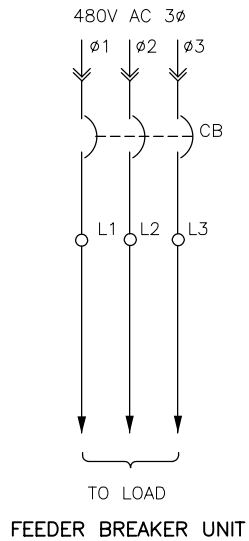
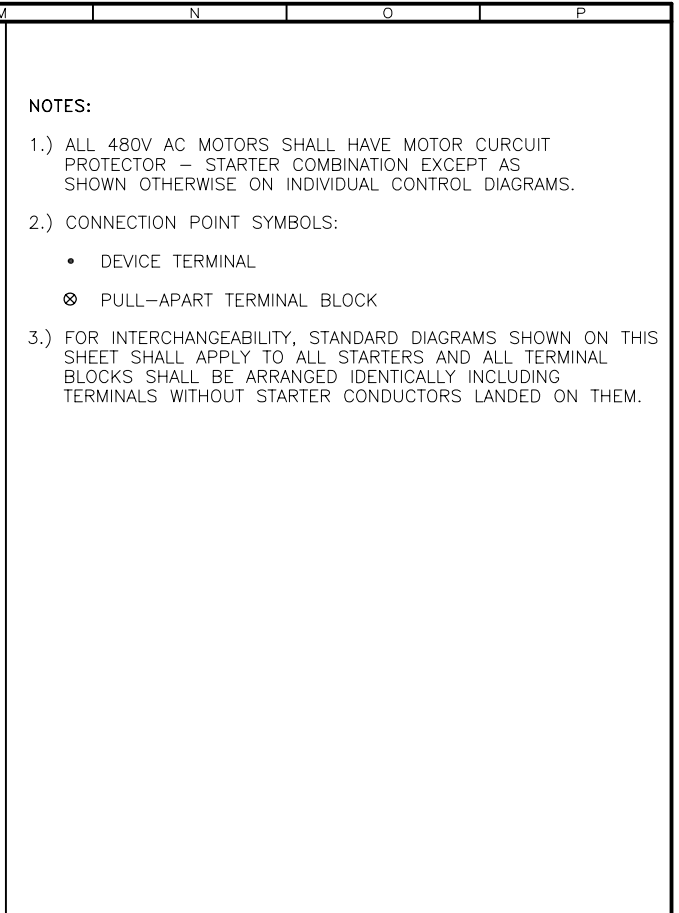
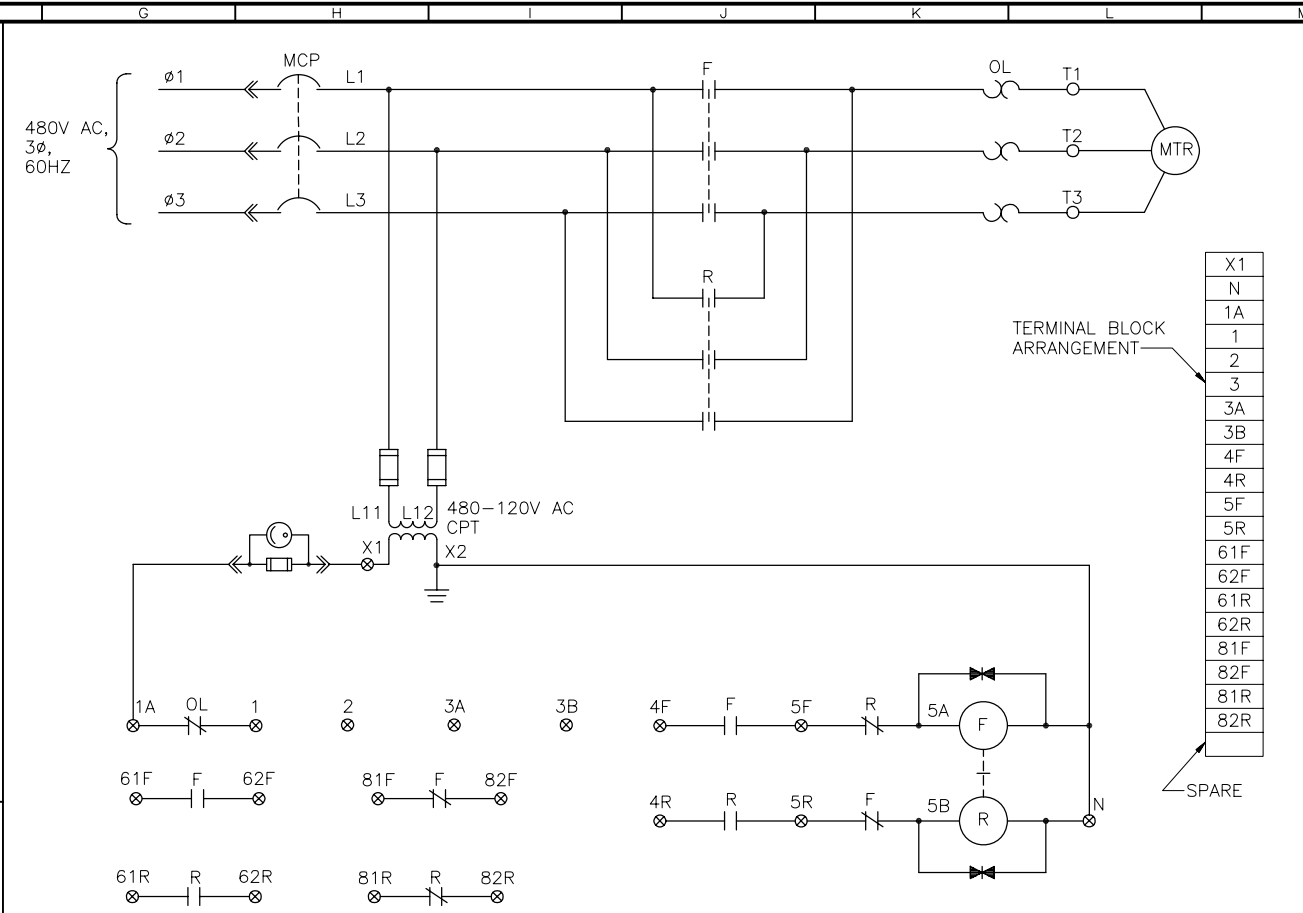
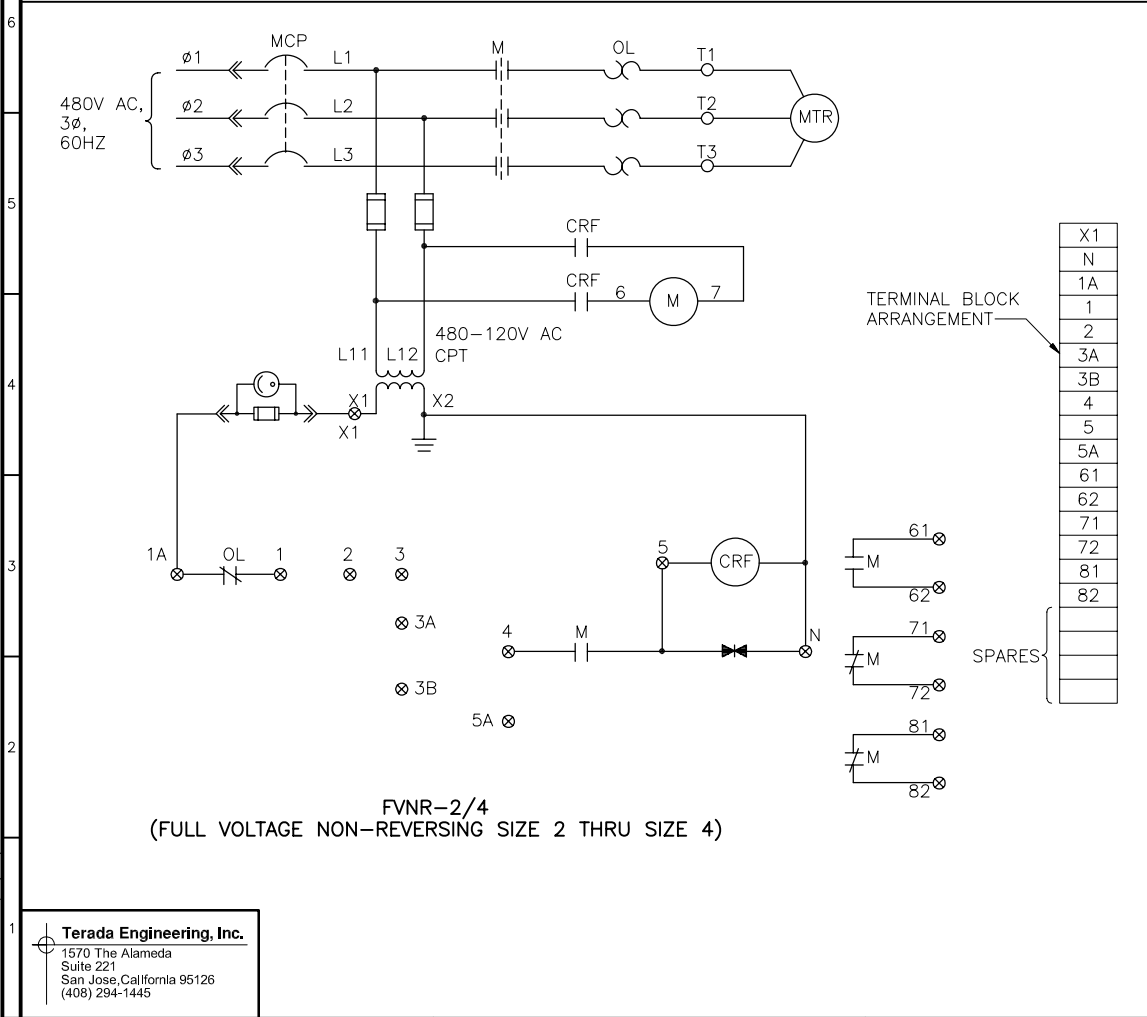
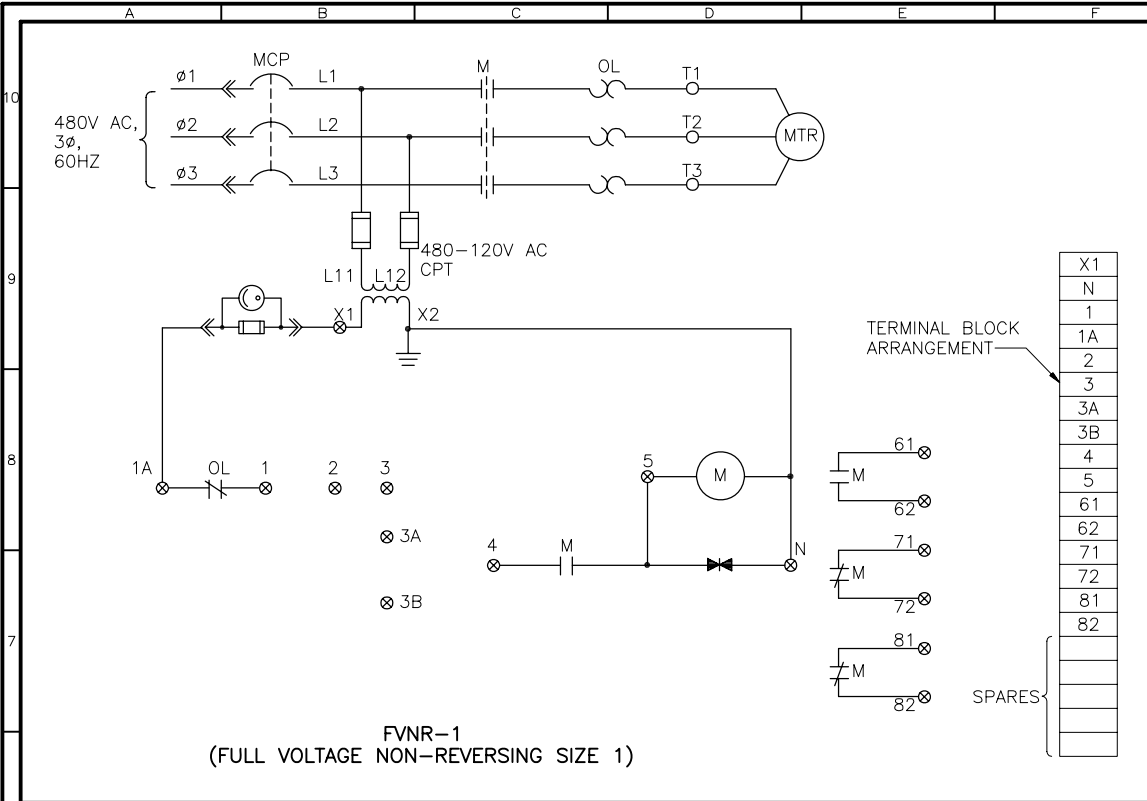
12KV – 480V SUBSTATION 7A–7B  
SINGLE LINE DIAGRAM

SCALE  
NONE

DRAWING NUMBER  
**EG600**

SHEET NUMBER  
100 OF 236

PLOTTED: TUE0961, 1/14/2010 8:40:48 AM  
 SAVED: TUE0961, 1/14/2010 8:40:44 AM  
 BDR342202



PRELIMINARY - NOT FOR CONSTRUCTION

**BLACK & VEATCH**  
Building a world of difference



REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)	
FILE	EG700
DRAWN	R. TERADA
DESIGNED	R. TERADA
CHECKED	

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT - PHASE II

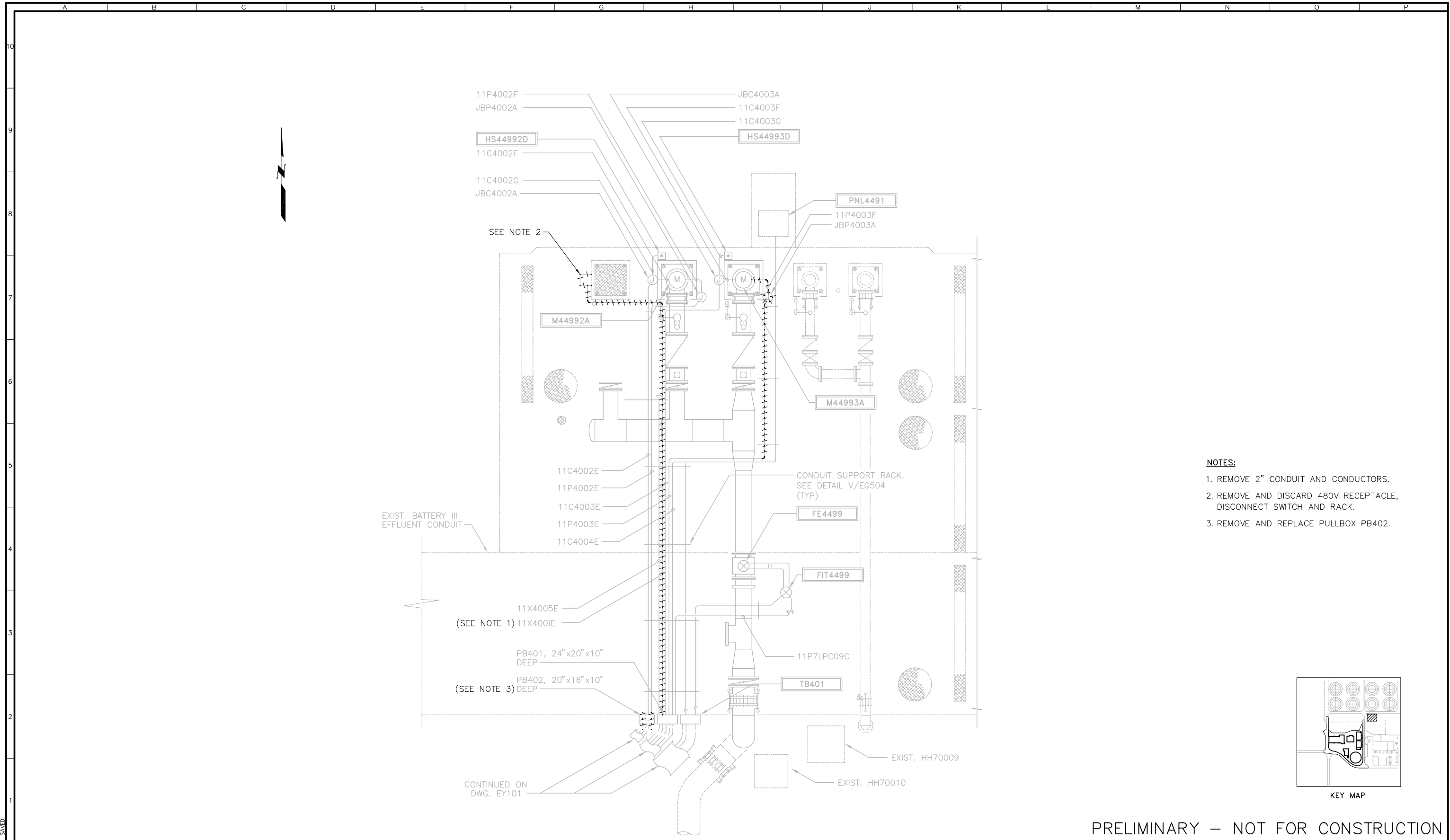
ELECTRICAL

STANDARD ELEMENTARY DIAGRAMS 1

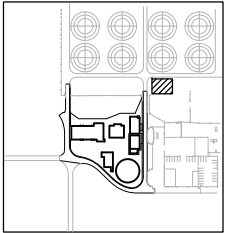
SCALE  
NO SCALE

DRAWING NUMBER  
EG700

SHEET NUMBER  
101 OF 236



- NOTES:**
- 1. REMOVE 2" CONDUIT AND CONDUCTORS.
  - 2. REMOVE AND DISCARD 480V RECEPTACLE, DISCONNECT SWITCH AND RACK.
  - 3. REMOVE AND REPLACE PULLBOX PB402.



KEY MAP

PRELIMINARY – NOT FOR CONSTRUCTION

PLOTTED:  
DATE:

FILED:  
DATE:



REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

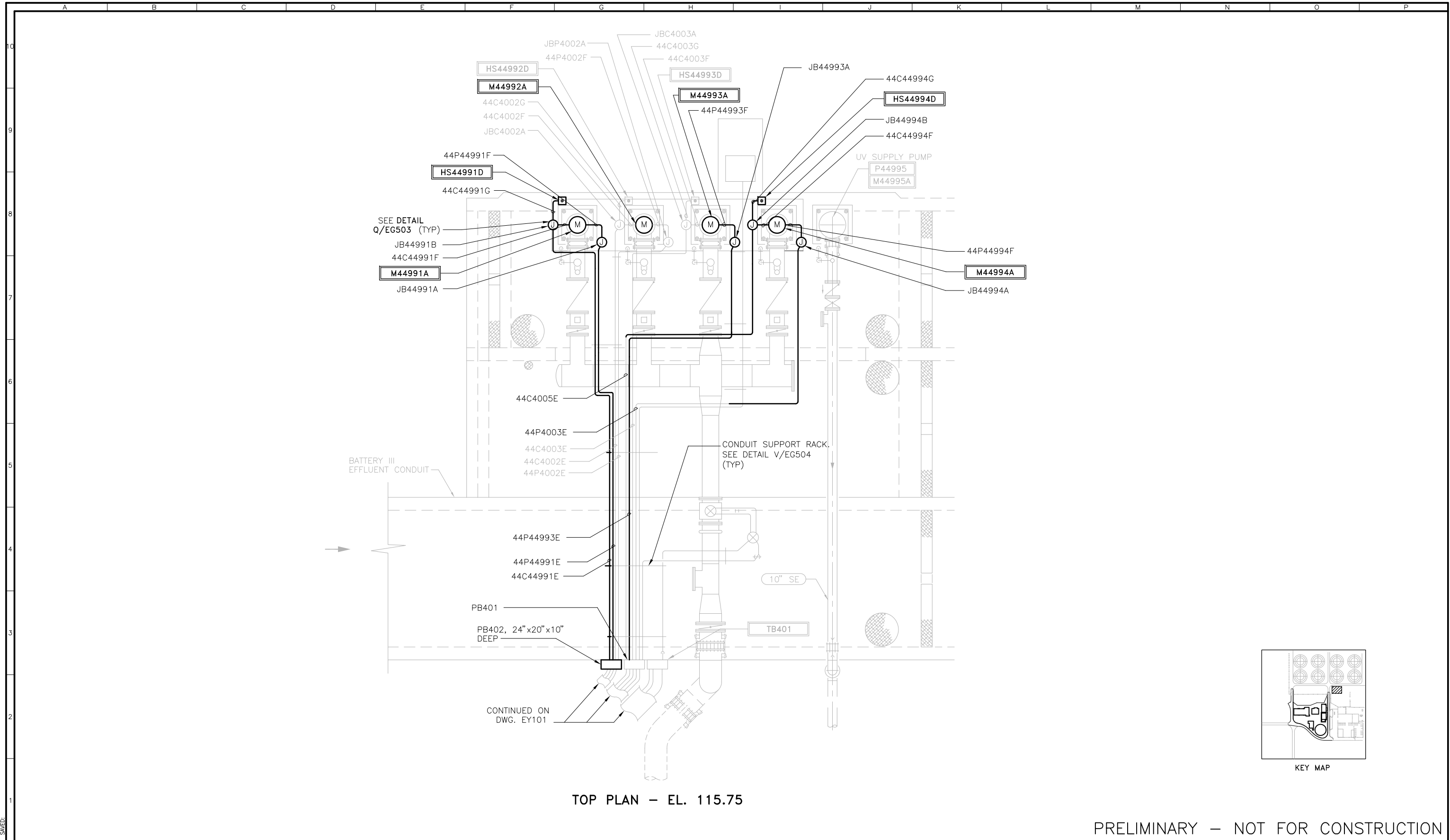
LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"=SCALE ACCORDINGLY)	
FILE	FILE NAME
DRAWN	SS
DESIGNED	SS
CHECKED	SS

TBD
CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT OF SACRAMENTO COUNTY, CALIFORNIA
SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT WATER RECLAMATION FACILITY

ELECTRICAL
FILTER FEED PUMP STATION POWER AND CONTROL PLAN DEMOLITION

SCALE 1/4"=1'
DRAWING NUMBER EF001
SHEET NUMBER 103 OF 236



TOP PLAN - EL. 115.75

PRELIMINARY - NOT FOR CONSTRUCTION

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SRCS D

REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2" - SCALE ACCORDINGLY)

FILE    FILE NAME

DRAWN    SS

DESIGNED    SS

CHECKED    SS

TBD

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY

ELECTRICAL

FILTER FEED PUMP STATION  
POWER AND CONTROL PLAN

SCALE  
1/4" = 1'

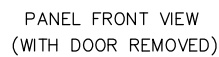
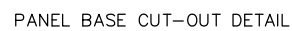
DRAWING NUMBER  
EF100

SHEET NUMBER  
104 OF 236

FB0342202

SB0342202





	QTY	MFG	CATALOG	DESCRIPTION
	1	HOFFMAN	A903620FS	ENCLOSURE, NEMA 12, SINGLE DOOR, 90" (H), 36" (W), 20" (D)
	1	HOFFMAN	A90P36F1	ENC. BACK PANEL, 78" (H), 32" (W)
①	1	ALLEN-BRADLEY	20BD248A3ANNANA0	POWERFLEX 700, 480V, 248A, 200HP VFD, FRAME SIZE 6, STANDARD 24V I/O
⑨	1	ALLEN-BRADLEY	20-HIM-C3S	DOOR MOUNTED VFD DISPLAY WITH CABLE
②	1	ACME ELECTRIC	TB-81215	CONTROL TRANSFORMER, 480V-120VAC, 500VA
	1	ACME ELECTRIC	PL-112704	PRIMARY FUSE BLOCK
	1	ACME ELECTRIC	PL-79931	SECONDARY FUSE BLOCK
⑤	1	MARATHON	1403303	INPUT POWER TB
④	1	MARATHON	1453606	OUTPUT POWER TB
	1	MARATHON	CC1403	CLEAR PROTECTIVE PLASTIC COVER FOR INPUT POWER TB
	1	MARATHON	CC1453	CLEAR PROTECTIVE PLASTIC COVER FOR OUTPUT POWER TB
⑦	1	HOFFMAN	TFP41	COOLING FAN / AIR FILTER / GRILLE
⑥	1	HOFFMAN	TEP4	EXHAUST GRILLE / AIR FILTER
⑧	1	HOFFMAN	A-TEMNO	THERMOSTAT
	1	HOFFMAN	A-LF16D18	WORKLIGHT
③	1	ALLEN-BRADLEY	1321-RWR250-DP	OUTPUT FILTER
	1	ALLEN-BRADLEY	800T-PH16W	PILOT LIGHT, LED-TRANSFORMER TYPE, 120AC, WHITE
	1	ALLEN-BRADLEY	800T-PTH16G	PILOT LIGHT, LED-TRANSFORMER TYPE, 120AC, PUSH-TO-TEST, GREEN
	1	ALLEN-BRADLEY	800T-PTH16R	PILOT LIGHT,LED-TRANSFORMER TYPE, 120VAC, PUSH-TO-TEST, RED
	1	ALLEN-BRADLEY	800T-PTH16A	PILOT LIGHT,LED-TRANSFORMER TYPE,120AC,PUSH-TO-TEST, AMBER
	6	IDEC	RU4S-A110	CONTROL RELAY, FORM C, 4 POLE, 120VAC, INDICATOR LT
	6	IDEC	SY4S-05	RELAY SOCKET
	40	PHOENIX CONTACT	30 04 36 2	TERMINAL BLOCKS UK5N
		AS NEEDED		MISC. CTRL FUSES, PANDUIT, SPIRAL WRAP, NAMEPLATES, WIRE, DINRAIL

NAMEPLATE SCHEDULE						
DRAWING TAG	QUANTITY	TYPE	SIZE	LETTER SIZE	INSCRIPTION	ALLEN-BRADLEY P/N
1	1	PLATE	2.0" X 5.0"	$\frac{1}{2}$ " $\frac{1}{4}$ "	SEE TABLE BELOW	
2A	1	RING	30.5 mm	1/8	POWER ON	800H-W100E
3A	1	RING	30.5 mm	1/8	READY	800H-W100E
3B	1	RING	30.5 mm	1/8	RUN	800H-W100E
3C	1	RING	30.5 mm	1/8	FAULT	800H-W100E

PANEL NO.1	PANEL NO.2
VFC44991B FILTER FEED PUMP 1	VFC44993B FILTER FEED PUMP 3

TAG 1 1ST LINE  
TAG 1 2ND LINE

## NOTES

1. GENERAL - ALL WIRING TO THE PANEL ENTER FROM BOTTOM.
2. NAMEPLATE: UNLESS OTHERWISE STATED, BLACK W/ WHITE LETTERS. LAMINATED PHENOLIC TYPE
3. NAMEPLATE TO BE ATTACHED W/ S.S. SCREWS.
4. PROVIDE 10 SPARE TERMINAL BLOCKS FOR TB1.
5. ENCLOSE ALL WIRING CROSSING DOOR HINGES WITH SPIRAL WRAP.

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"-SCALE ACCORDINGLY)

FILE	FILE NAME
DRAWN	SS
DESIGNED	SS
CHECKED	SS

TBD

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY

PANELS AND CABINETS  
NAMEPLATE SCHEDULE

FILTER FEED PUMP VFD PANELS  
VFC44991B / VFC44993B

SCALE

NO SCALE

DRAWING NUMBER

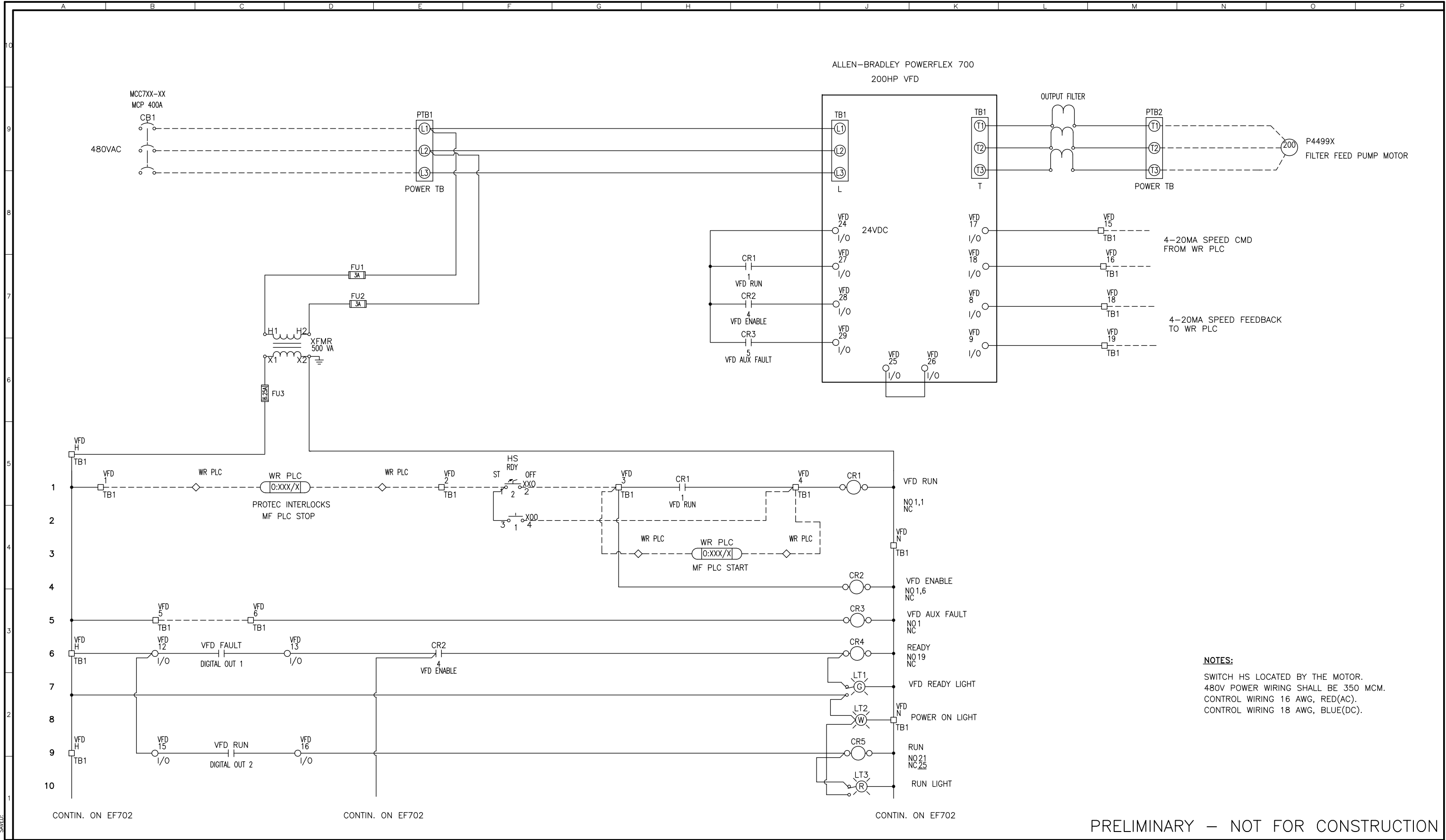
EF700

SHEET NUMBER  
06 OF 236

PLOTTED:  
SAVED.

BDR3422D2





**NOTES:**  
SWITCH HS LOCATED BY THE MOTOR.  
480V POWER WIRING SHALL BE 350 MCM.  
CONTROL WIRING 16 AWG, RED(AC).  
CONTROL WIRING 18 AWG, BLUE(DC).

PRELIMINARY – NOT FOR CONSTRUCTION

PLOTTED: FEB342202  
SHEET: 20342202

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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"=SCALE ACCORDINGLY)	
FILE	FILE NAME
DRAWN	SS
DESIGNED	SS
CHECKED	SS

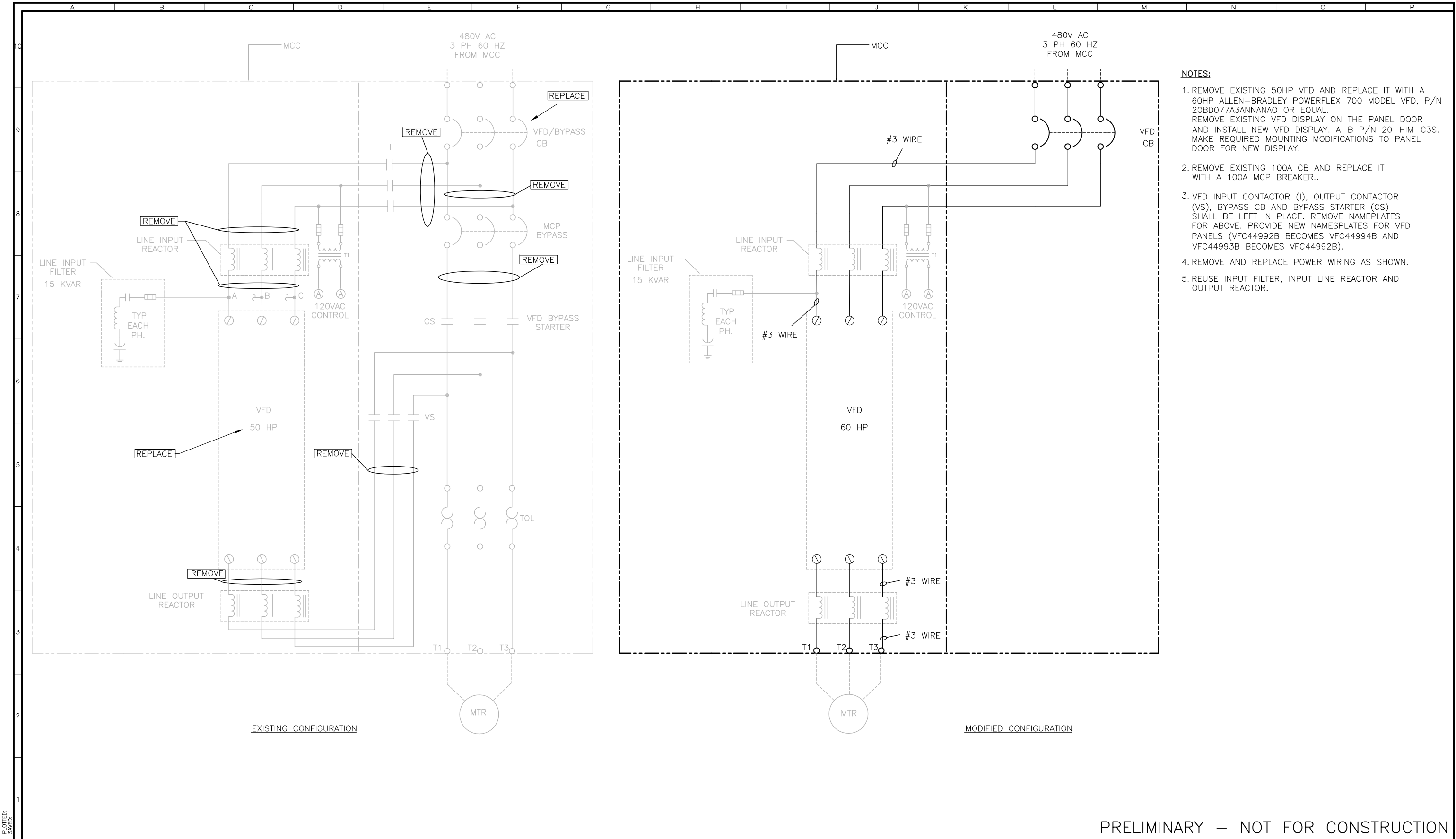
TBD
CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT OF SACRAMENTO COUNTY, CALIFORNIA
SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT WATER RECLAMATION FACILITY

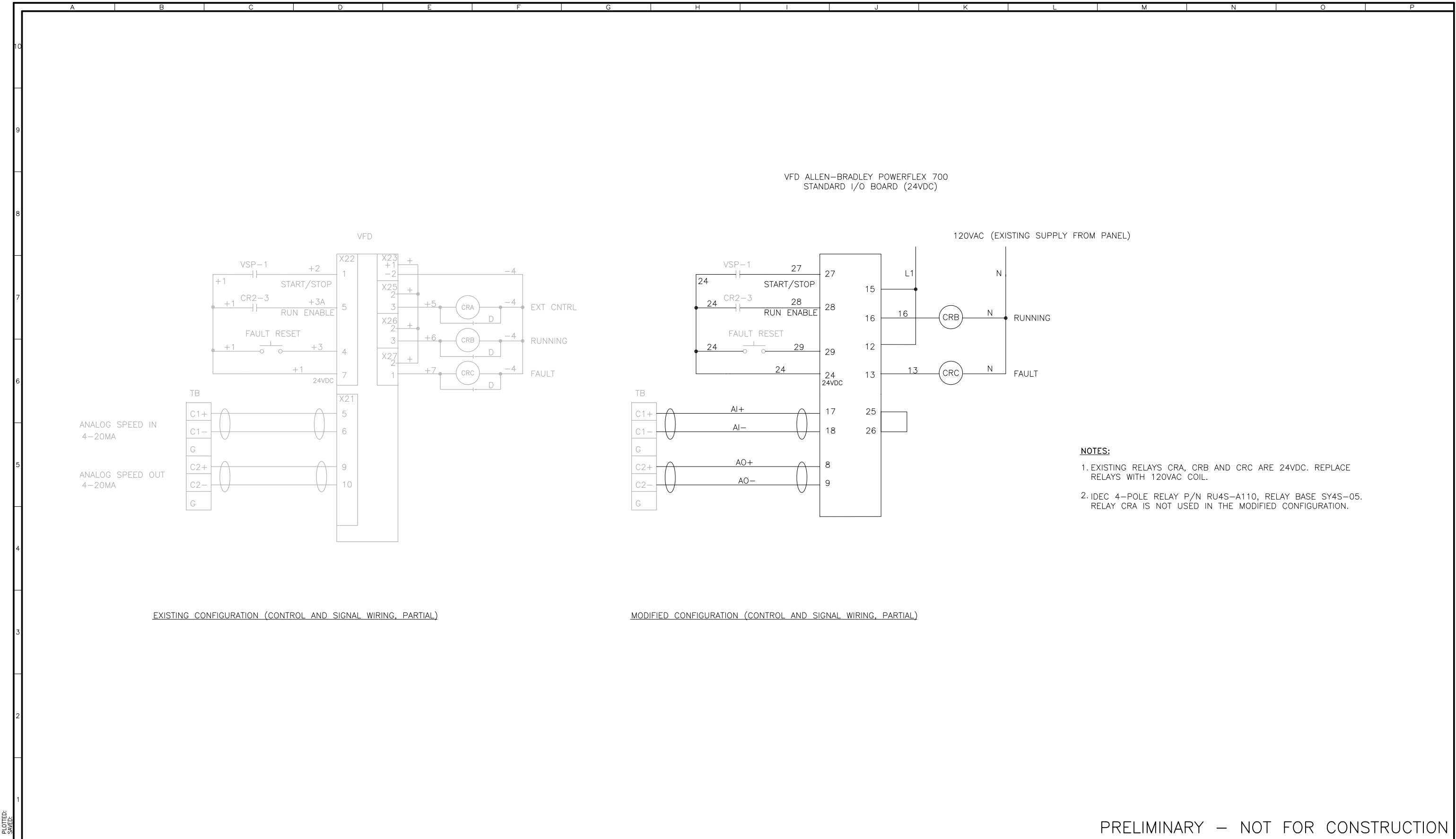
PANELS AND CABINETS
VFD PANEL WIRING DIAGRAM VFC44991B / VFC44993B FILTER FEED PUMP 1 / PUMP 3 SHEET 1 OF 2

SCALE NO SCALE
DRAWING NUMBER EF701
SHEET NUMBER 107 OF 236





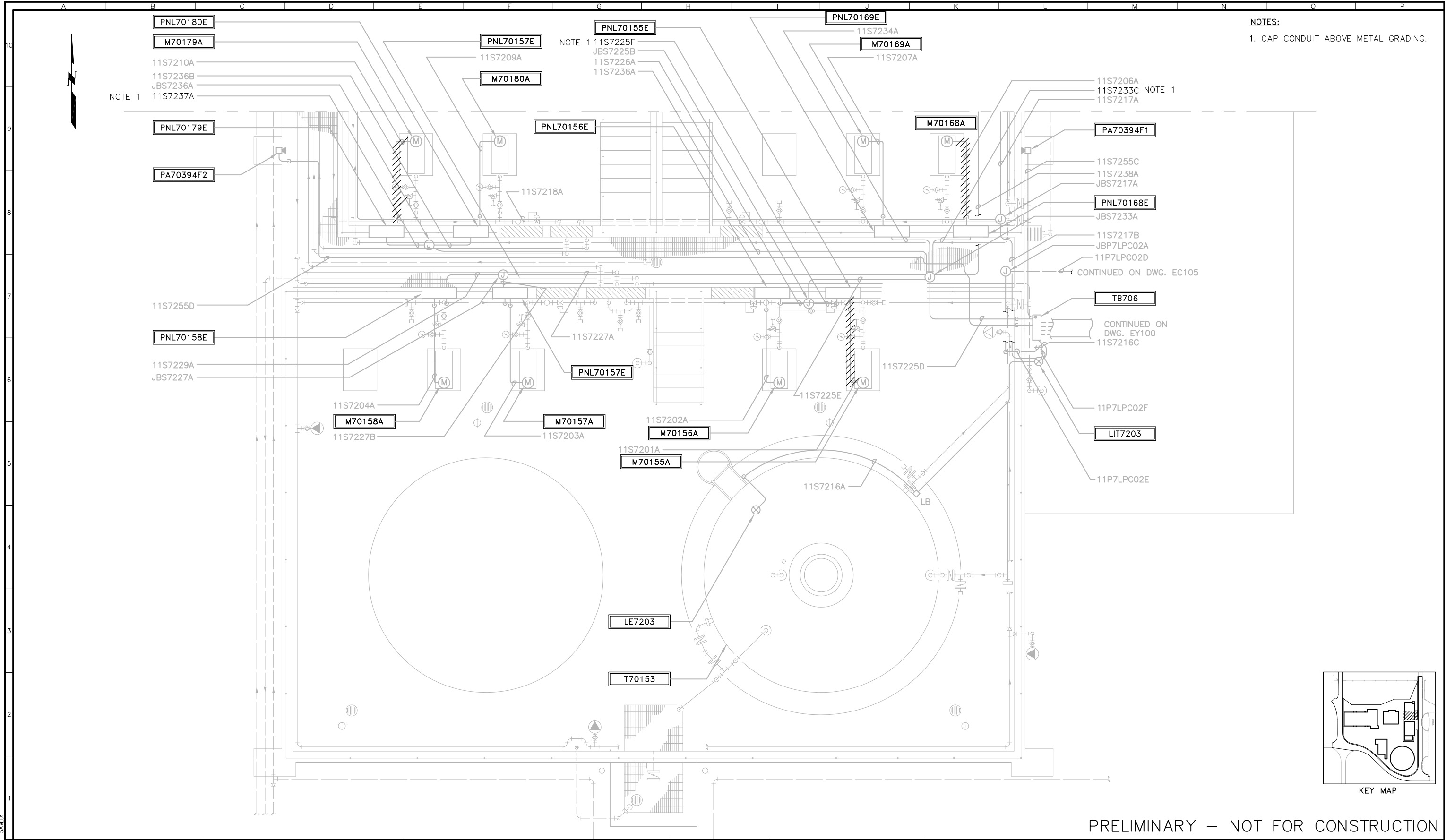
PRELIMINARY – NOT FOR CONSTRUCTION



PRELIMINARY – NOT FOR CONSTRUCTION







NOTES:  
1. CAP. CONDUIT ABOVE METAL GRADING.

PRELIMINARY – NOT FOR CONSTRUCTION

PLOTTED: 3/22/2022  
SHEET: 112 OF 236

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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"=SCALE ACCORDINGLY)

FILE FILE NAME  
DRAWN S.SIVAPRASAD  
DESIGNED SS  
CHECKED SS

TBD  
CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY

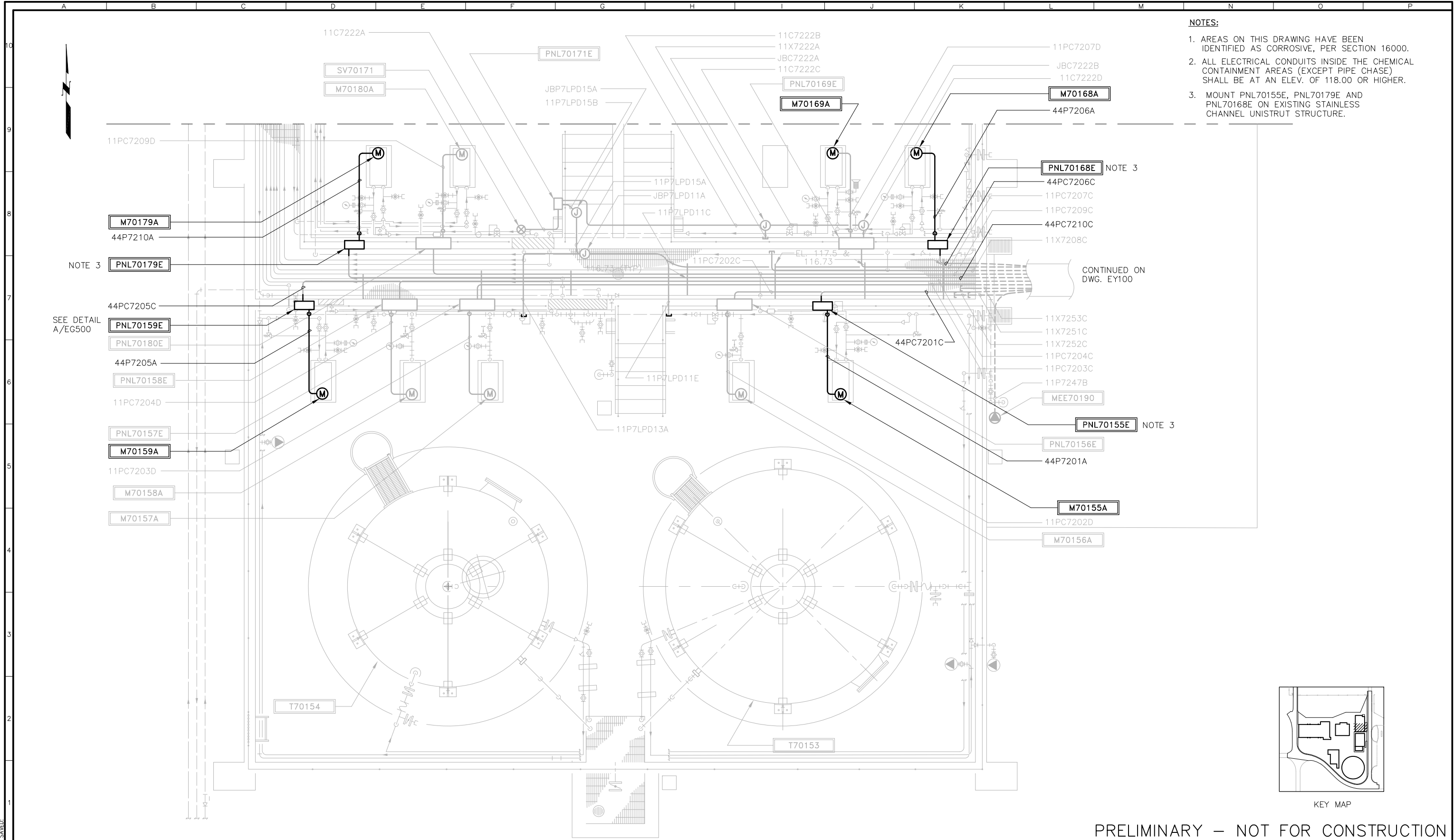
ELECTRICAL

EXISTING CHEMICAL STORAGE AREA  
INSTRUMENTATION AND COMMUNICATION  
PLAN 1  
DEMOLITION

SCALE  
3/8"=1'

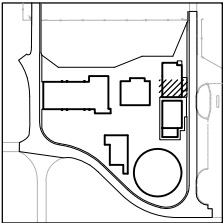
DRAWING NUMBER  
**EC102**

SHEET NUMBER  
112 OF 236



- NOTES:
1. AREAS ON THIS DRAWING HAVE BEEN IDENTIFIED AS CORROSIVE, PER SECTION 16000.
  2. ALL ELECTRICAL CONDUITS INSIDE THE CHEMICAL CONTAINMENT AREAS (EXCEPT PIPE CHASE) SHALL BE AT AN ELEV. OF 118.00 OR HIGHER.
  3. MOUNT PNL70155E, PNL70179E AND PNL70168E ON EXISTING STAINLESS CHANNEL UNISTRUT STRUCTURE.

CONTINUED ON  
DWG. EY100



KEY MAP

PRELIMINARY – NOT FOR CONSTRUCTION

PLOTTED:  
DATE:

FILED:  
DATE:

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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"=SCALE ACCORDINGLY)

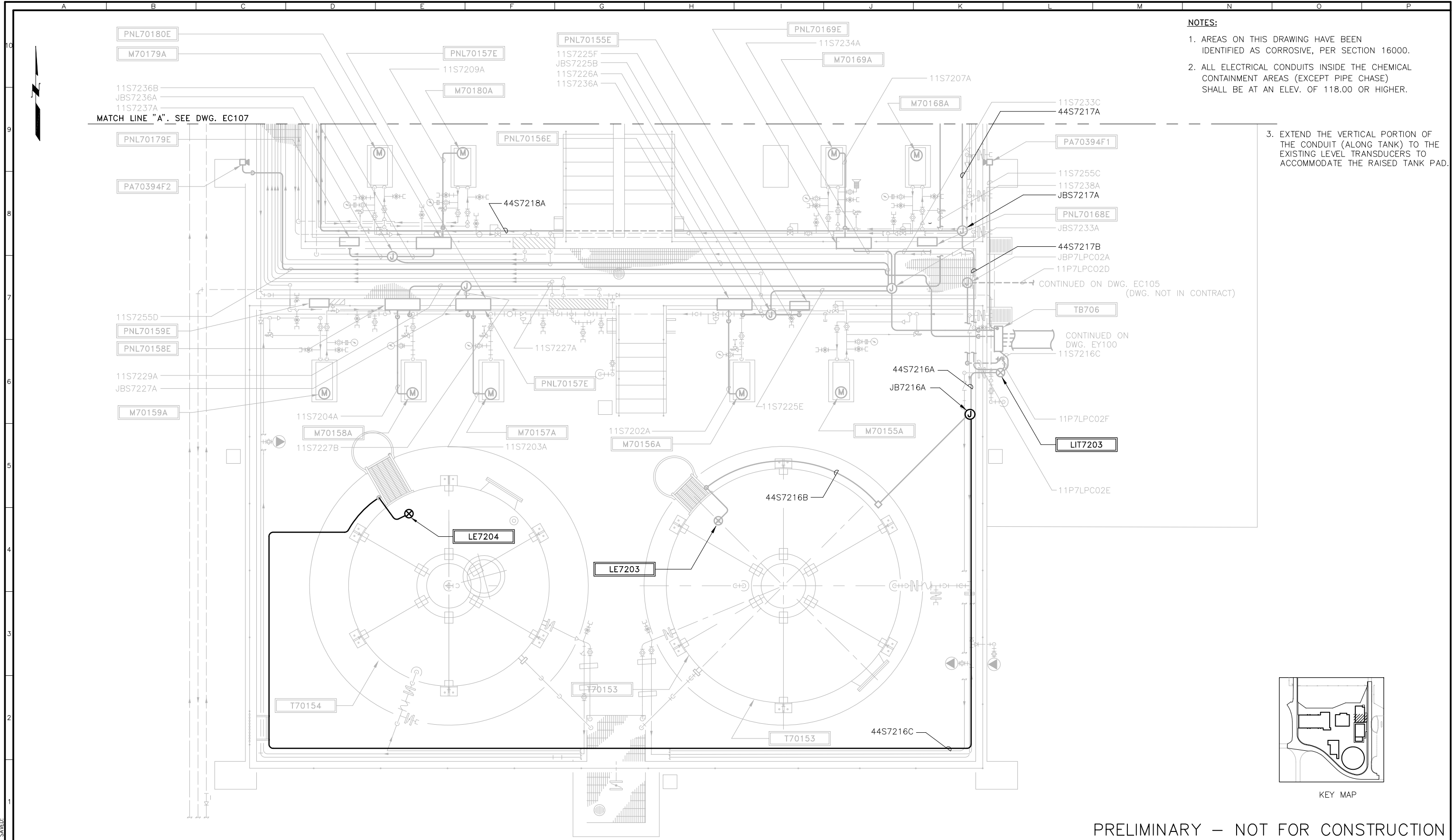
FILE FILE NAME  
DRAWN S. SIVAPRASAD  
DESIGNED SS  
CHECKED SS

TBD  
CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA  
  
SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY

ELECTRICAL  
  
EXISTING CHEMICAL STORAGE AREA  
POWER AND CONTROL PLAN 1  
MODIFICATIONS

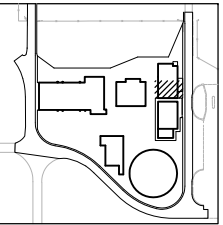
SCALE  
3/8"=1'  
  
DRAWING NUMBER  
**EC104**  
  
SHEET NUMBER  
113 OF 236



- NOTES:**
1. AREAS ON THIS DRAWING HAVE BEEN IDENTIFIED AS CORROSIVE, PER SECTION 16000.
  2. ALL ELECTRICAL CONDUITS INSIDE THE CHEMICAL CONTAINMENT AREAS (EXCEPT PIPE CHASE) SHALL BE AT AN ELEV. OF 118.00 OR HIGHER.
  3. EXTEND THE VERTICAL PORTION OF THE CONDUIT (ALONG TANK) TO THE EXISTING LEVEL TRANSDUCERS TO ACCOMMODATE THE RAISED TANK PAD.

CONTINUED ON DWG. EC105  
(DWG. NOT IN CONTRACT)

CONTINUED ON  
DWG. EY100  
11S7216C



KEY MAP

PRELIMINARY – NOT FOR CONSTRUCTION

PLOTTED: 5/24/2022  
SHEET: 114 OF 236



REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"=SCALE ACCORDINGLY)

FILE FILE NAME  
DRAWN S.SIVAPRASAD  
DESIGNED SS  
CHECKED SS

TBD  
CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY

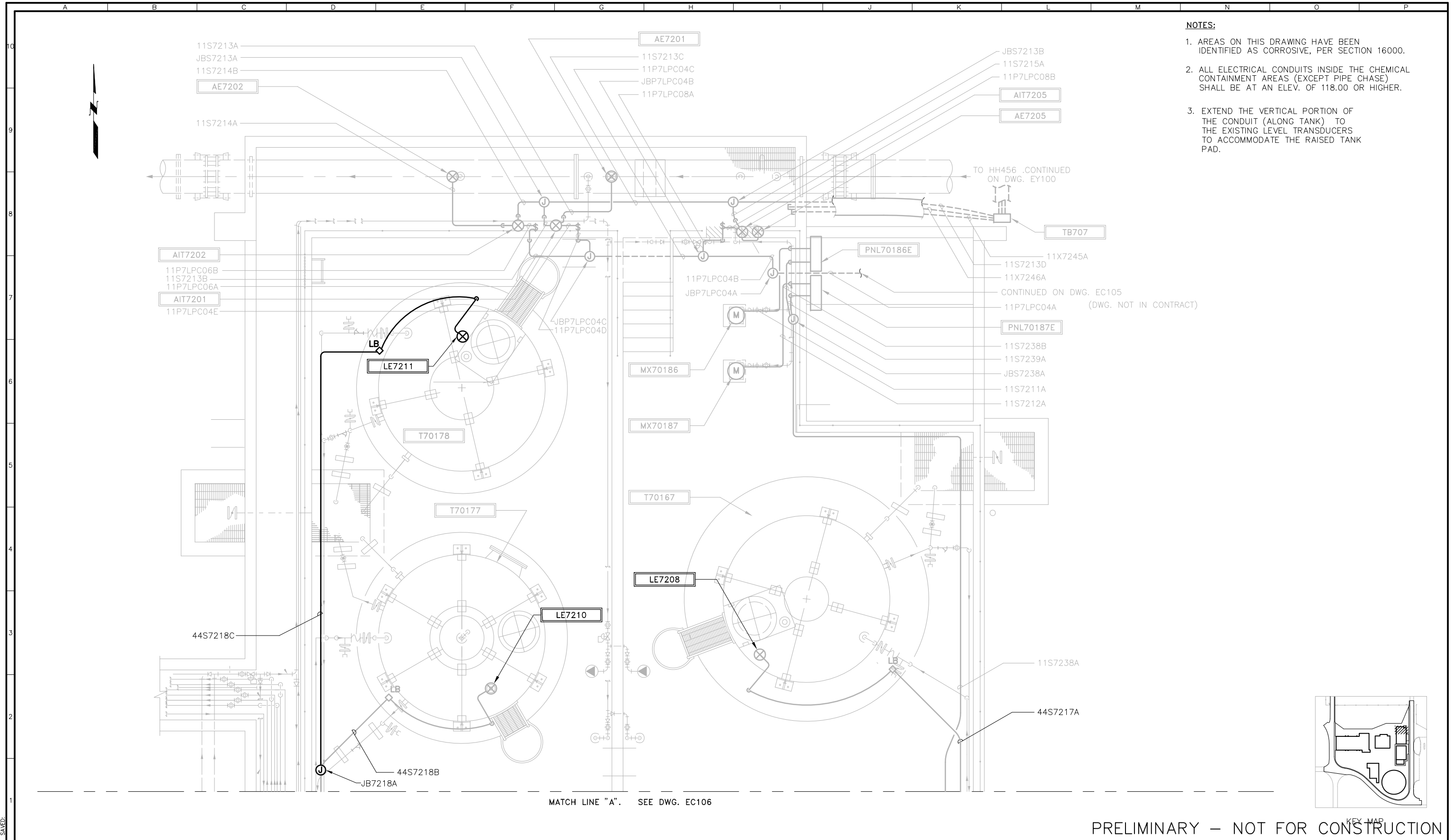
ELECTRICAL

EXISTING CHEMICAL STORAGE AREA  
INSTRUMENTATION AND COMMUNICATION  
PLAN 1  
MODIFICATIONS

SCALE  
3/8"=1'

DRAWING NUMBER  
**EC106**

SHEET NUMBER  
114 OF 236



- NOTES:**
- 1. AREAS ON THIS DRAWING HAVE BEEN IDENTIFIED AS CORROSIVE, PER SECTION 16000.
  - 2. ALL ELECTRICAL CONDUITS INSIDE THE CHEMICAL CONTAINMENT AREAS (EXCEPT PIPE CHASE) SHALL BE AT AN ELEV. OF 118.00 OR HIGHER.
  - 3. EXTEND THE VERTICAL PORTION OF THE CONDUIT (ALONG TANK) TO THE EXISTING LEVEL TRANSDUCERS TO ACCOMMODATE THE RAISED TANK PAD.

MATCH LINE "A". SEE DWG. EC106

PRELIMINARY – NOT FOR CONSTRUCTION

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SRCS

REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"=SCALE ACCORDINGLY)

FILE FILE NAME

DRAWN S. SIVAPRASAD

DESIGNED SS

CHECKED SS

TBD

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT WATER RECLAMATION FACILITY

ELECTRICAL

EXISTING CHEMICAL STORAGE AREA INSTRUMENTATION AND COMMUNICATION PLAN 2 MODIFICATIONS

SCALE 3/8"=1'

DRAWING NUMBER EC107

SHEET NUMBER 115 OF 236

PLOTTED: 5/24/2012  
SHEET: 115 OF 236

1

PNL70155E  
SODIUM HYPOCHLORITE PUMP

2A

2B

HS70155D

START   READY   OFF

PANEL FRONT VIEW

PANEL BILL OF MATERIALS

QTY	MFG	CATALOG	DESCRIPTION
1	HOFFMAN	A1614CHNFSS6	STAINLESS STEEL ENCLOSURE, NEMA 4X, 16" (H), 14" (W), 6" (D)
1	ALLEN-BRADLEY	800H-JR4KE7B	3-POSITION SELECTOR SWITCH. SPRING RETURN FROM LEFT, 2 N.O. 2 N.C. CONTACTS

NAMEPLATE SCHEDULE

DRAWING TAG	QUANTITY	TYPE	SIZE	LETTER SIZE	INSCRIPTION	ALLEN-BRADLEY P/N
1	1	PLATE	2.0" X 6.0"	<div>1/2" 1/4"</div>	SEE TABLE BELOW	
2A 2B	1	RING	30.5 mm	<div>1/8 1/8</div>	SEE TABLE BELOW START   READY   OFF	800H-W100E

TAG 1 1ST LINE  
TAG 1 2ND LINE  
TAG 2A

PANEL NO.1	PANEL NO.2	PANEL NO.3	PANEL NO.4
PNL70155E SODIUM HYPOCHLORITE PUMP	PNL70159E SODIUM HYDROXIDE PUMP	PNL70179E CITRIC ACID PUMP	PNL70168E SODIUM BISULFITE PUMP
HS70155D	HS70159D	HS70179D	HS70168D

BLACK & VEATCH  
Building a world of difference

SRCS D

REGISTERED PROFESSIONAL ENGINEER  
WILLIAM Y. SIVAPRASAD  
NO. 68143  
EXP. 6-30-11  
CIVIL  
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER  
SALAY SIVAPRASAD  
Regist # 16171  
Exp. 6-30-10  
ELECTRICAL  
STATE OF CALIFORNIA

REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"-SCALE ACCORDINGLY)

FILE FILE NAME  
DRAWN S. SIVAPRASAD  
DESIGNED SS  
CHECKED SS

TBD

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY

ELECTRICAL

PANEL LAYOUT, MATERIAL LIST  
AND NAMEPLATE SCHEDULE

CHEMICAL PUMP CONTROL PANELS

SCALE  
NO SCALE

DRAWING NUMBER  
EC700

SHEET NUMBER  
116 OF 236

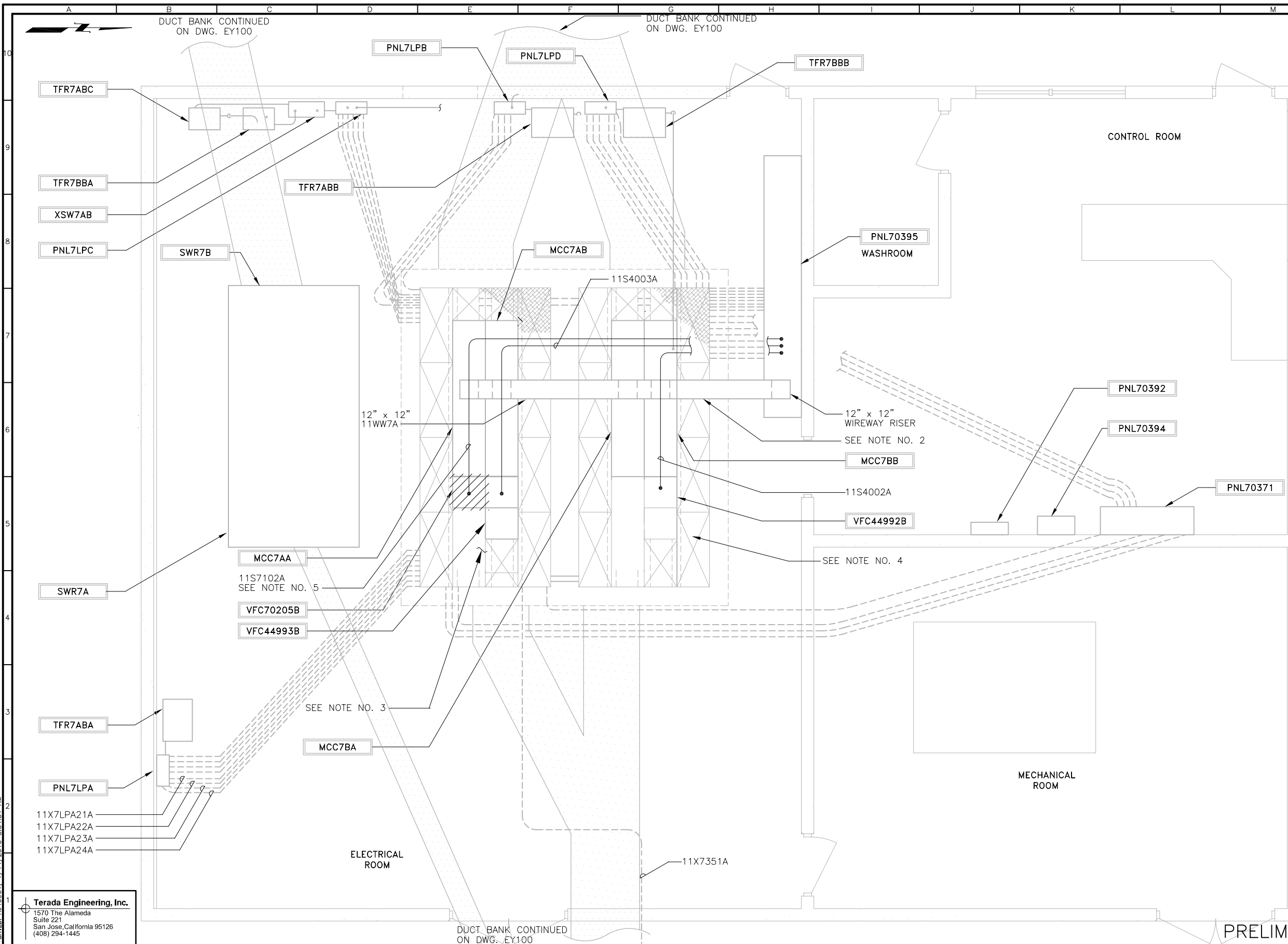
PRELIMINARY – NOT FOR CONSTRUCTION

FB0342202  
S0342202

PLOTTED:  
S0342202



PLOTTED: TUE0961, 1/14/2010 8:54:56 AM  
 SAVED: TUE0961, 1/14/2010 8:54:51 AM  
 F00342202  
 BDR342202

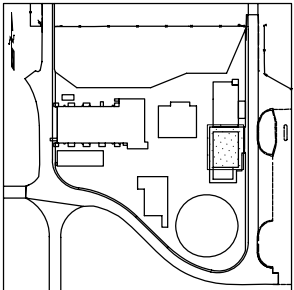


- NOTES:
- 1.) NOT ALL EXISTING CONDUITS ARE SHOWN FOR SIMPLICITY.
  - 2.) DISCONNECT AND REMOVE THE FOLLOWING CABLE BUNDLES FROM EXISTING 11WW7A. BETWEEN MCC OR VFC AND PNL70395:

NO.	QTY & SIZE	FROM
11C7101C	13#14	MCC7AA
11C7102C	9#14	VFC70205B
11C7112B	7#14	MCC7AA
  - 3.) DISCONNECT AND REMOVE THE FOLLOWING CABLE BUNDLES FROM EXISTING MCC TRENCH:

NO.	QTY & SIZE	FROM	TO
11P4003A	3#4, #8 GND	MCC7AB	VFC44993B
11P7102A	3#12, #12 GND	MCC7AA	VFC70205B
  - 4.) DISCONNECT AND REMOVE THE FOLLOWING CABLE BUNDLES FROM MCC TRENCH:

NO.	QTY & SIZE	FROM	TO
11P4002A	3#4, #8 GND	MCC7BA	VFC44992B
  - 5.) REMOVE ALL CABLES AND/OR WIRES FROM EXISTING CONDUIT.



PRELIMINARY – NOT FOR CONSTRUCTION

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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"-SCALE ACCORDINGLY)

FILE **EE100**

DRAWN **L. R. CASTILLO**

DESIGNED **R. TERADA**

CHECKED \_\_\_\_\_

CONTRACT NUMBER \_\_\_\_\_

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT – PHASE II

ELECTRICAL

EXISTING MCC BUILDING PLAN  
DEMOLITION

SCALE 3/8"=1'-0"
DRAWING NUMBER <b>EE100</b>
SHEET NUMBER 121 OF 236







FBUR34ZZUZ  
PLUTIED: 1J40961, 1/14/2010 1:36:32 PM  
SAVED: TL40961 1/14/2010 1:56:14 PM  
BDR3422D2

FBUR34ZZUZ  
PLUTIED: 1J40961, 1/14/2010 1:36:32 PM  
SAVED: TL40961 1/14/2010 1:56:14 PM  
BDR3422D2

FBUR34ZZUZ  
PLUTIED: 1J40961, 1/14/2010 1:36:32 PM  
SAVED: TL40961 1/14/2010 1:56:14 PM  
BDR3422D2

FBUR34ZZUZ  
PLUTIED: 1J40961, 1/14/2010 1:36:32 PM  
SAVED: TL40961 1/14/2010 1:56:14 PM  
BDR3422D2

FBUR34ZZUZ  
PLUTIED: 1J40961, 1/14/2010 1:36:32 PM  
SAVED: TL40961 1/14/2010 1:56:14 PM  
BDR3422D2

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PLUTIED: 1J40961, 1/14/2010 1:36:32 PM  
SAVED: TL40961 1/14/2010 1:56:14 PM  
BDR3422D2

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SAVED: TL40961 1/14/2010 1:56:14 PM  
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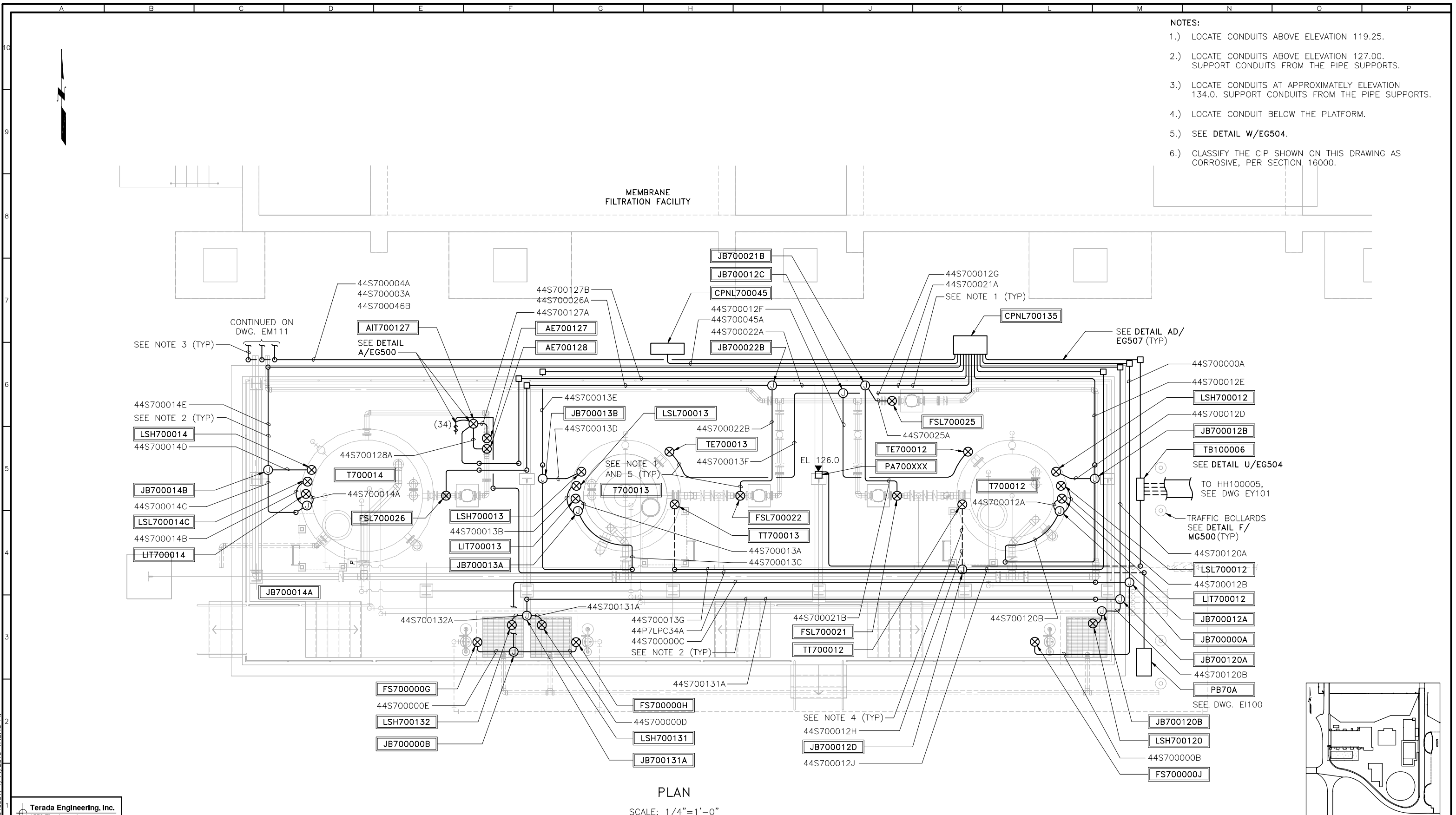
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SAVED: TL40961 1/14/2010 1:56:14 PM  
BDR3422D2

FBUR34ZZUZ  
PLUTIED: 1J40961, 1/14/2010 1:36:32 PM  
SAVED: TL40961 1/14/2010 1:56:14 PM  
BDR3422D2

FBUR34ZZUZ  
PLUTIED: 1J40961, 1/14/2010 1:36:32 PM  
SAVED: TL40961 1/14/2010 1:56:14 PM  
BDR3422D2



PLOTTED: TUE0961, 1/14/2010 1:43:55 PM  
 SAVD: TUE0961, 1/14/2010 1:43:43 PM  
 F00342202  
 BDR342202



- NOTES:
- 1.) LOCATE CONDUITS ABOVE ELEVATION 119.25.
  - 2.) LOCATE CONDUITS ABOVE ELEVATION 127.00. SUPPORT CONDUITS FROM THE PIPE SUPPORTS.
  - 3.) LOCATE CONDUITS AT APPROXIMATELY ELEVATION 134.0. SUPPORT CONDUITS FROM THE PIPE SUPPORTS.
  - 4.) LOCATE CONDUIT BELOW THE PLATFORM.
  - 5.) SEE DETAIL W/EG504.
  - 6.) CLASSIFY THE CIP SHOWN ON THIS DRAWING AS CORROSIVE, PER SECTION 16000.

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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	ISSUED FOR 90% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)

FILE **EI101**

DRAWN **G. TIJERO**

DESIGNED **R. TERADA**

CHECKED \_\_\_\_\_

CONTRACT NUMBER \_\_\_\_\_

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT - PHASE II

ELECTRICAL

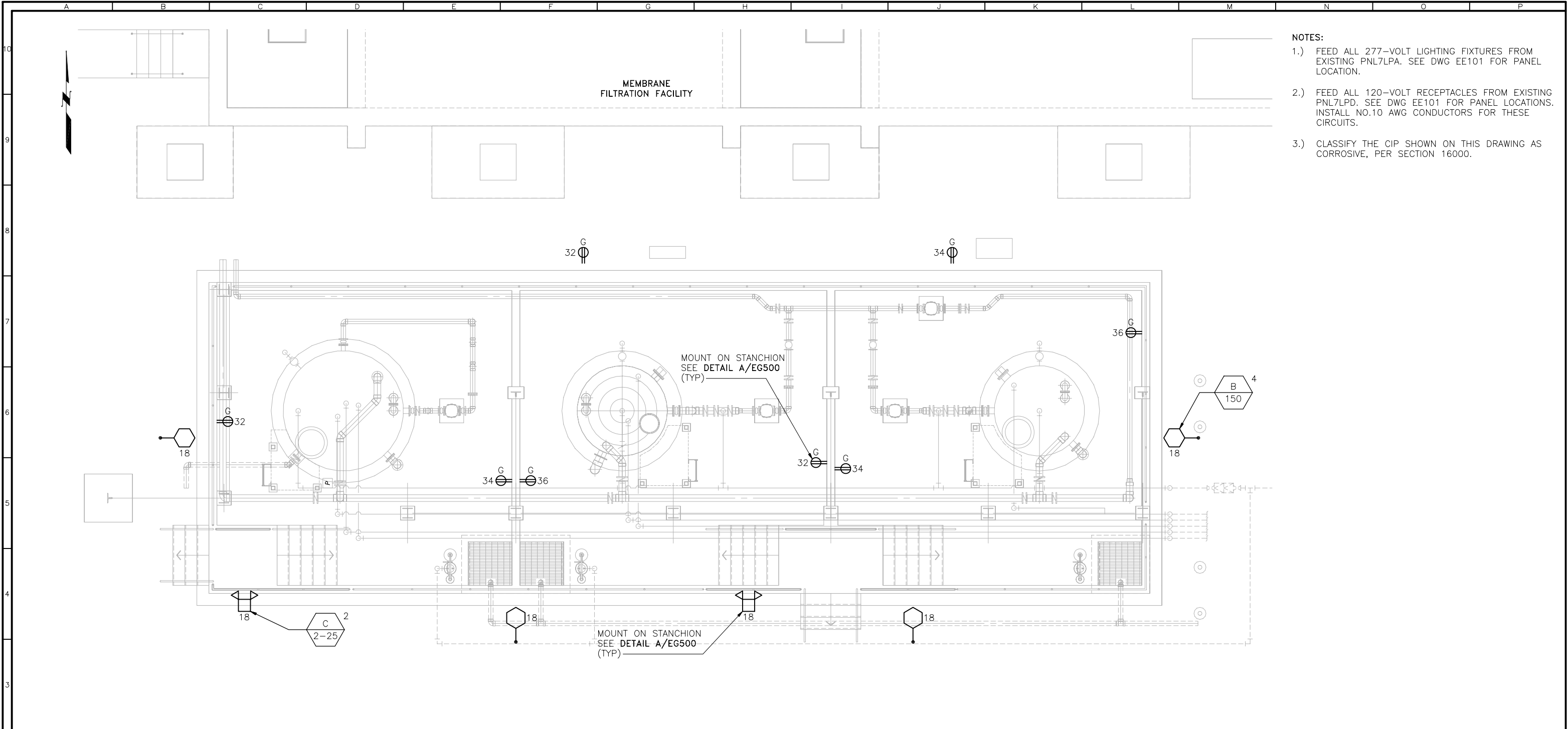
CIP-NEUTRALIZATION SYSTEM  
INSTRUMENTATION AND COMMUNICATION PLAN

SCALE  
AS NOTED

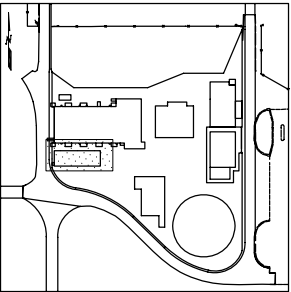
DRAWING NUMBER  
**EI101**

SHEET NUMBER  
126 OF 236

PLOTTED: TUE0961, 1/14/2010 1:45:36 PM  
 SAVED: TUE0961, 1/14/2010 1:45:32 PM



- NOTES:
- 1.) FEED ALL 277-VOLT LIGHTING FIXTURES FROM EXISTING PNL7LPA. SEE DWG EE101 FOR PANEL LOCATION.
  - 2.) FEED ALL 120-VOLT RECEPTACLES FROM EXISTING PNL7LPD. SEE DWG EE101 FOR PANEL LOCATIONS. INSTALL NO.10 AWG CONDUCTORS FOR THESE CIRCUITS.
  - 3.) CLASSIFY THE CIP SHOWN ON THIS DRAWING AS CORROSIVE, PER SECTION 16000.



KEY PLAN

PRELIMINARY — NOT FOR CONSTRUCTION

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ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	ISSUED FOR 90% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)	
FILE	EI102
DRAWN	G. TIJERO
DESIGNED	R. TERADA
CHECKED	

CONTRACT NUMBER
-----------------

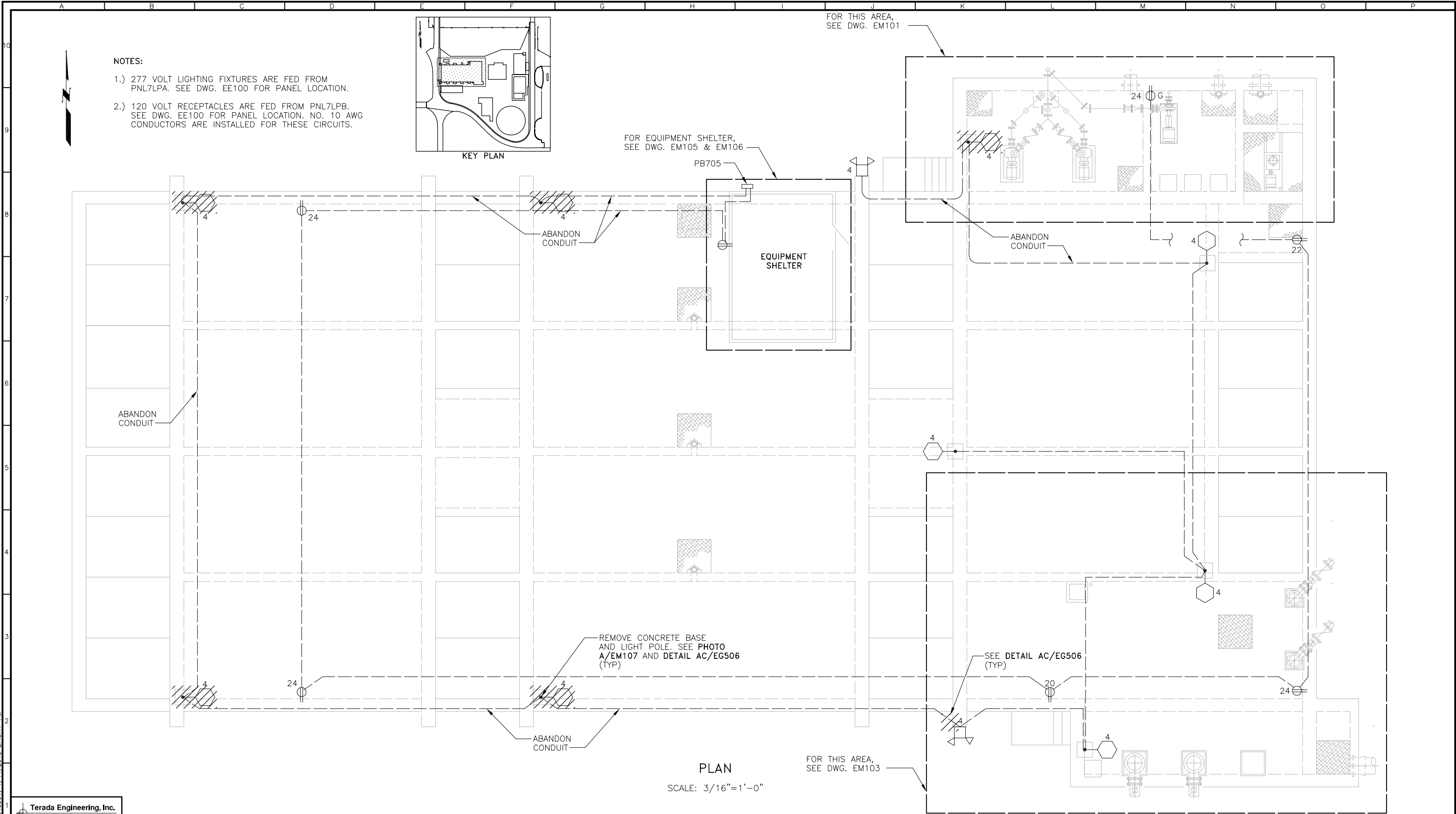
SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT OF SACRAMENTO COUNTY, CALIFORNIA
SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT WATER RECLAMATION FACILITY EXPANSION PROJECT — PHASE II

ELECTRICAL
CIP-NEUTRALIZATION SYSTEM LIGHTING AND RECEPTACLE PLAN

SCALE AS NOTED
DRAWING NUMBER EI102
SHEET NUMBER 127 OF 236



PLOTTED: T:\40961\_1\14/2010\_2:43:24 PM  
SAVED: T:\40961\_1\14/2010\_2:43:17 PM



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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"=SCALE ACCORDINGLY)

FILE **EM100**  
DRAWN L. R. CASTILLO  
DESIGNED R. TERADA  
CHECKED \_\_\_\_\_

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT - PHASE II

ELECTRICAL

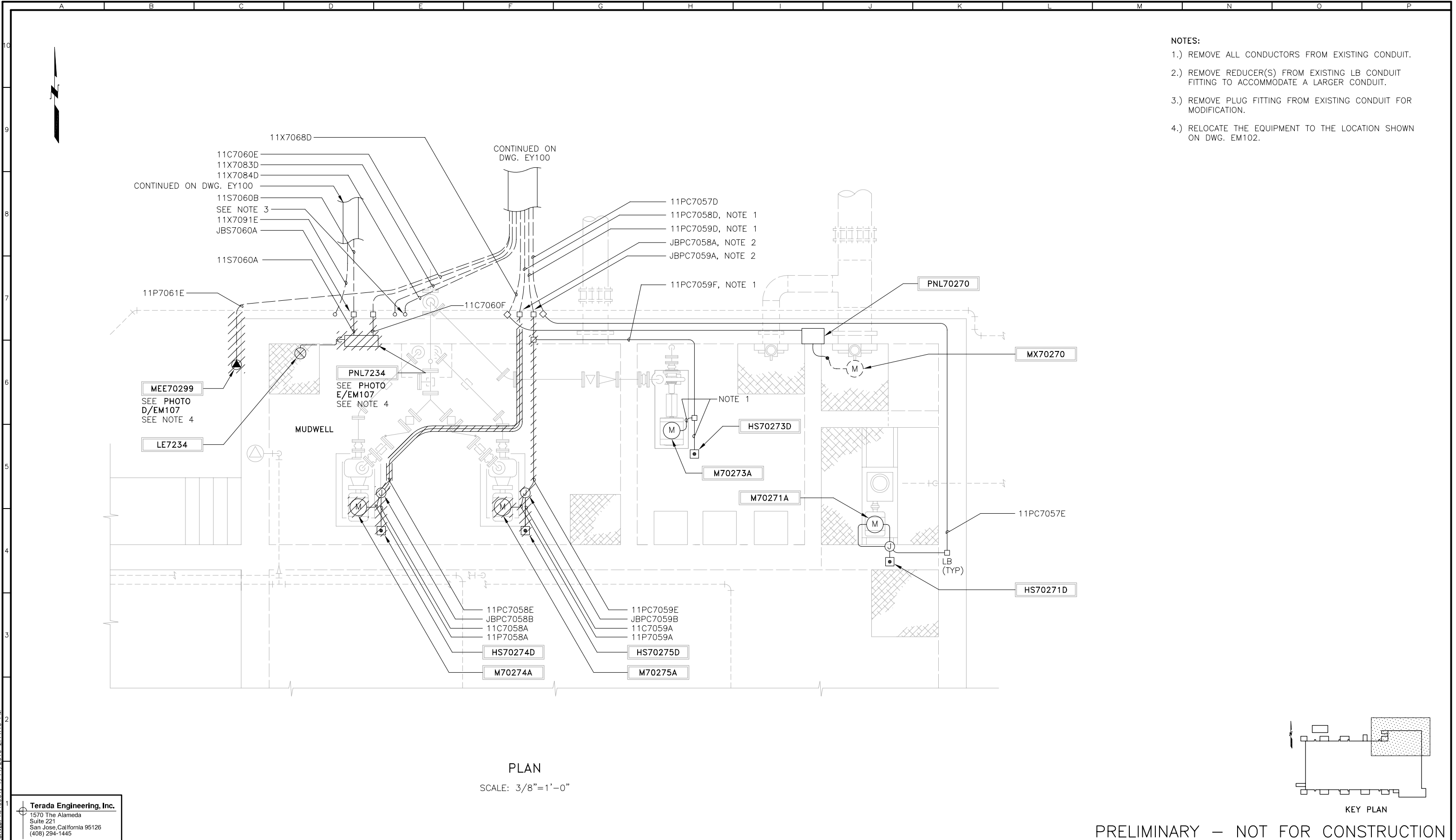
CHLORINE CONTACT TANK PLAN - EL. 120.0  
DEMOLITION

SCALE  
AS NOTED

DRAWING NUMBER  
**EM100**

SHEET NUMBER  
128 OF 236

PLOTTED: TUE0961, 1/14/2010, 2:44:52 PM  
 SAVED: TUE0961, 1/14/2010, 2:44:46 PM



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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	ISSUED FOR 90% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES  
 AT FULL SIZE  
 (IF NOT 2"-SCALE ACCORDINGLY)

FILE **EM101**  
 DRAWN L. R. CASTILLO  
 DESIGNED R. TERADA  
 CHECKED \_\_\_\_\_

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
 SANITATION DISTRICT  
 OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
 WASTEWATER TREATMENT PLANT  
 WATER RECLAMATION FACILITY  
 EXPANSION PROJECT – PHASE II

ELECTRICAL  
 CHLORINE CONTACT TANK  
 PARTIAL PLAN 1 – EL. 120.0  
 DEMOLITION

SCALE  
 AS NOTED

DRAWING NUMBER  
**EM101**

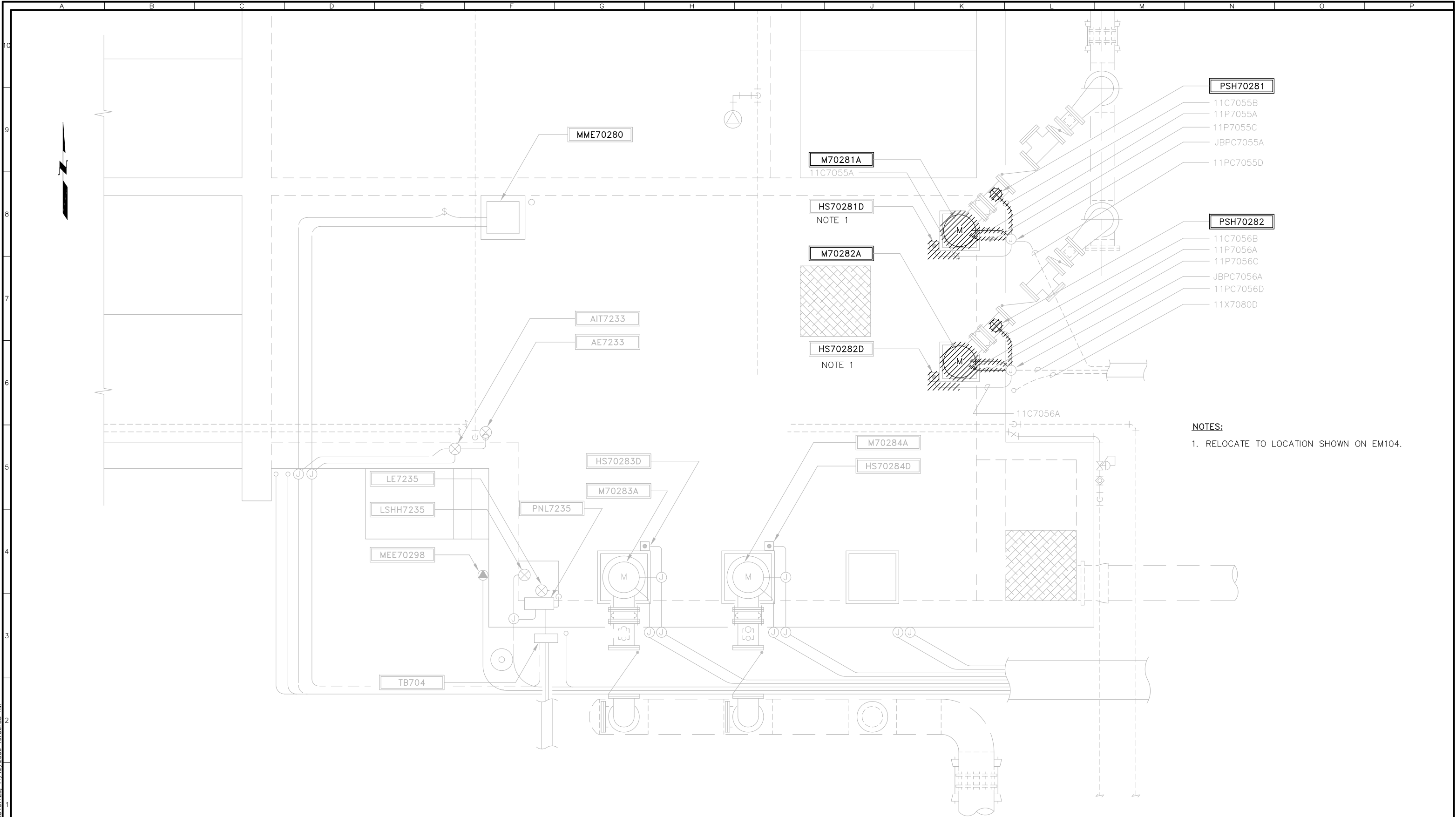
SHEET NUMBER  
 129 OF 236

PRELIMINARY – NOT FOR CONSTRUCTION



PLOTTED: 12/13/2009 5:06:22 PM, Batch Plot  
 SAVED: GUT51123.11/12/2009 10:56:53 AM

F00342202  
 BDR342202



NOTES:  
 1. RELOCATE TO LOCATION SHOWN ON EM104.

PRELIMINARY – NOT FOR CONSTRUCTION



REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

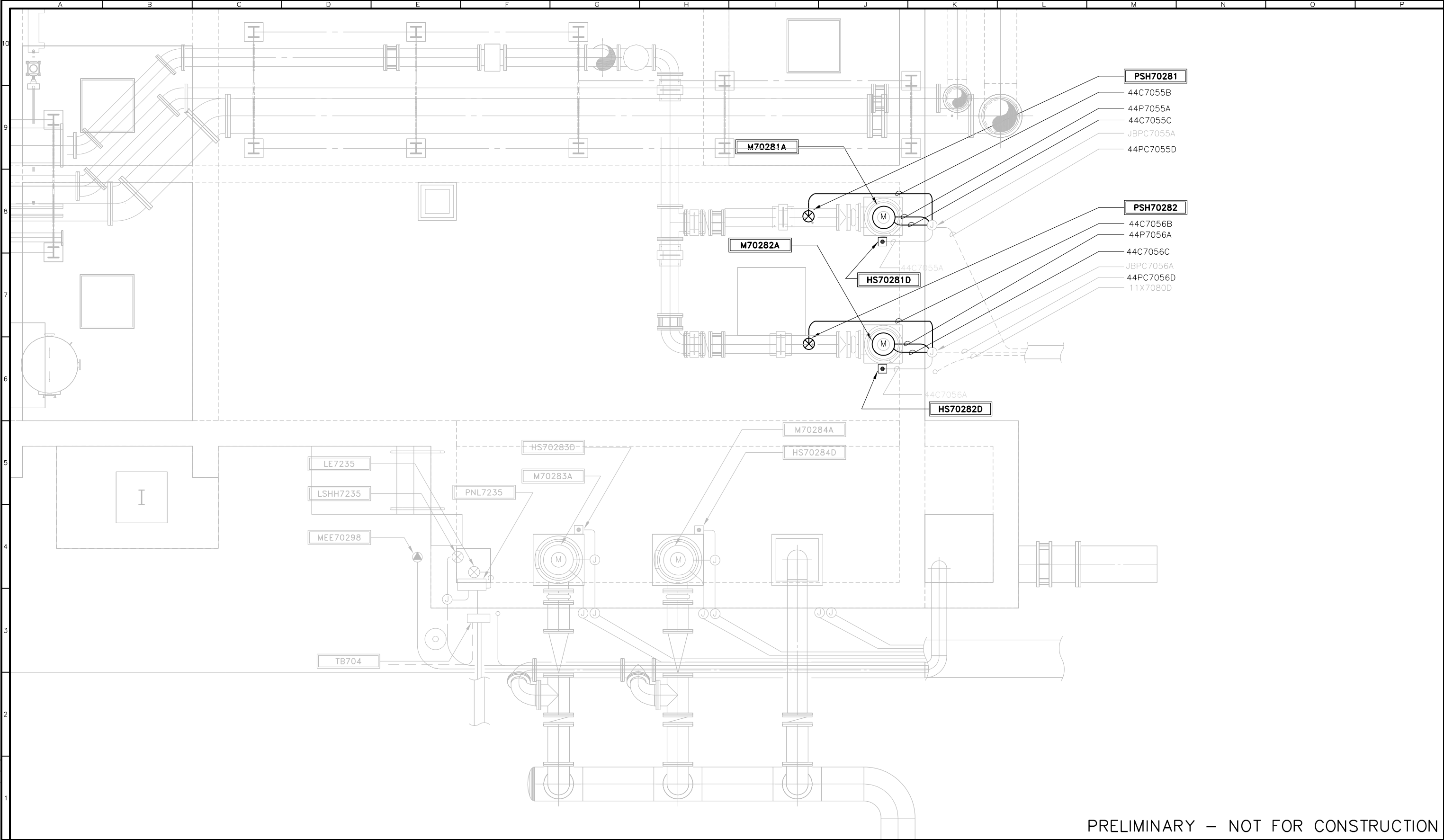
FILE	FILE NAME
DRAWN	JMELENDEZ
DESIGNED	SS
CHECKED	SS

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)
TBD CONTRACT NUMBER



SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT OF SACRAMENTO COUNTY, CALIFORNIA
SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT WATER RECLAMATION FACILITY EXPANSION PROJECT – PHASE II



ELECTRICAL
CHLORINE CONTACT TANK REVERSE FILTRATION PUMP STATION PLAN DEMOLITION

SCALE 1/4"=1'
DRAWING NUMBER EM103
SHEET NUMBER 131 OF 236



PRELIMINARY – NOT FOR CONSTRUCTION





REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"=SCALE ACCORDINGLY)

FILE FILE NAME

DRAWN JMELENDEZ

DESIGNED SS

CHECKED SS

TBD

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT – PHASE II

ELECTRICAL

CHLORINE CONTACT TANK  
REVERSE FILTRATION PUMP STATION PLAN  
MODIFICATION

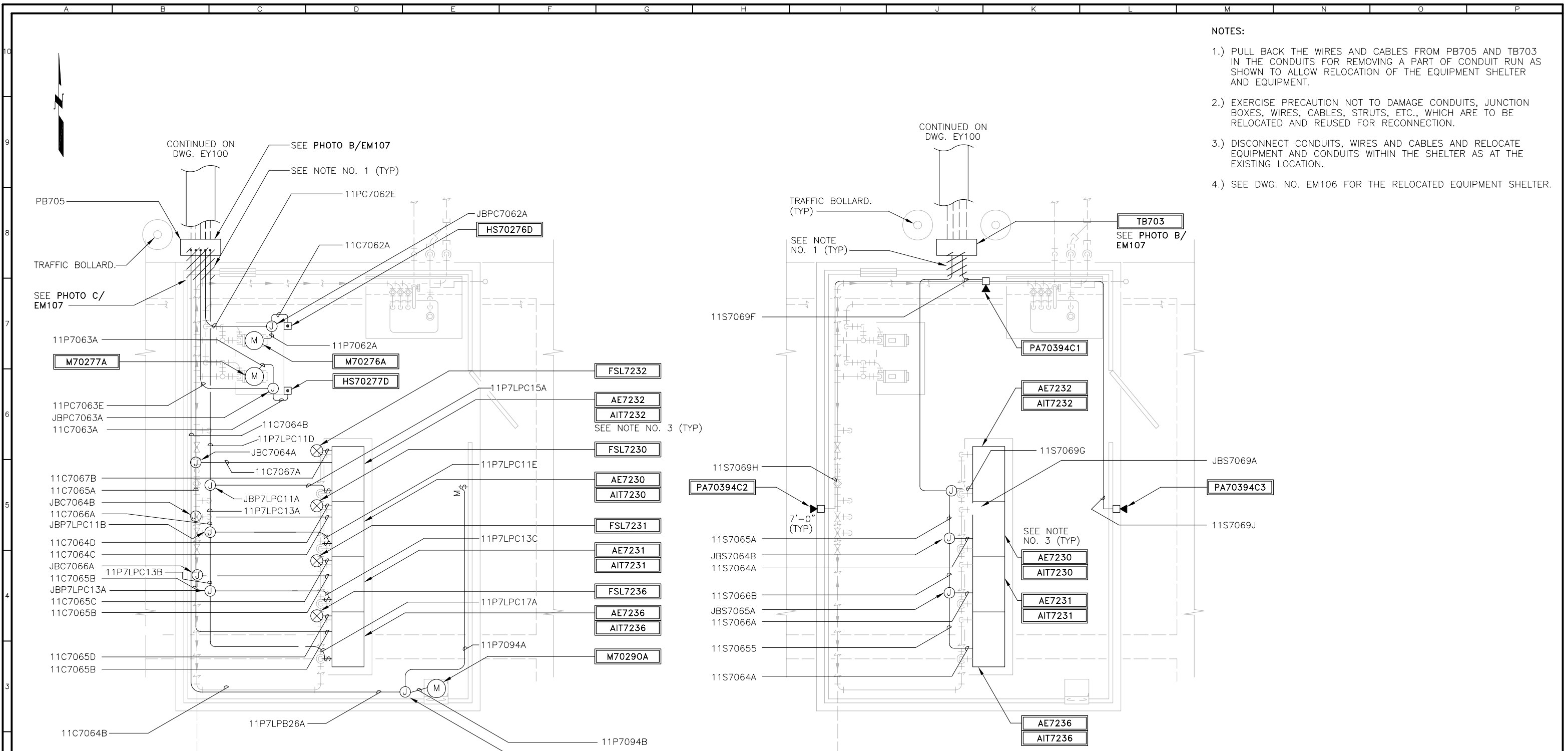
SCALE  
1/4"=1'

DRAWING NUMBER  
**EM104**

SHEET NUMBER  
132 OF 236

FB034202  
5/24/2009  
PLOTED: 12/3/2009 5:05:22 PM, Batch Plot  
SAVE: 6/15/12 11:17:23 AM

PLOTTED: T:\40961\_1\14/2010 2:48:34 PM  
 SAVER: T:\40961\_1\14/2010 2:48:32 PM  
 F:\B342202  
 BDR342202



- NOTES:
- 1.) PULL BACK THE WIRES AND CABLES FROM PB705 AND TB703 IN THE CONDUITS FOR REMOVING A PART OF CONDUIT RUN AS SHOWN TO ALLOW RELOCATION OF THE EQUIPMENT SHELTER AND EQUIPMENT.
  - 2.) EXERCISE PRECAUTION NOT TO DAMAGE CONDUITS, JUNCTION BOXES, WIRES, CABLES, STRUTS, ETC., WHICH ARE TO BE RELOCATED AND REUSED FOR RECONNECTION.
  - 3.) DISCONNECT CONDUITS, WIRES AND CABLES AND RELOCATE EQUIPMENT AND CONDUITS WITHIN THE SHELTER AS AT THE EXISTING LOCATION.
  - 4.) SEE DWG. NO. EM106 FOR THE RELOCATED EQUIPMENT SHELTER.

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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	ISSUED FOR 90% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"-SCALE ACCORDINGLY)

FILE **EM105**  
DRAWN L. R. CASTILLO  
DESIGNED R. TERADA  
CHECKED \_\_\_\_\_

CONTRACT NUMBER \_\_\_\_\_

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT – PHASE II

ELECTRICAL

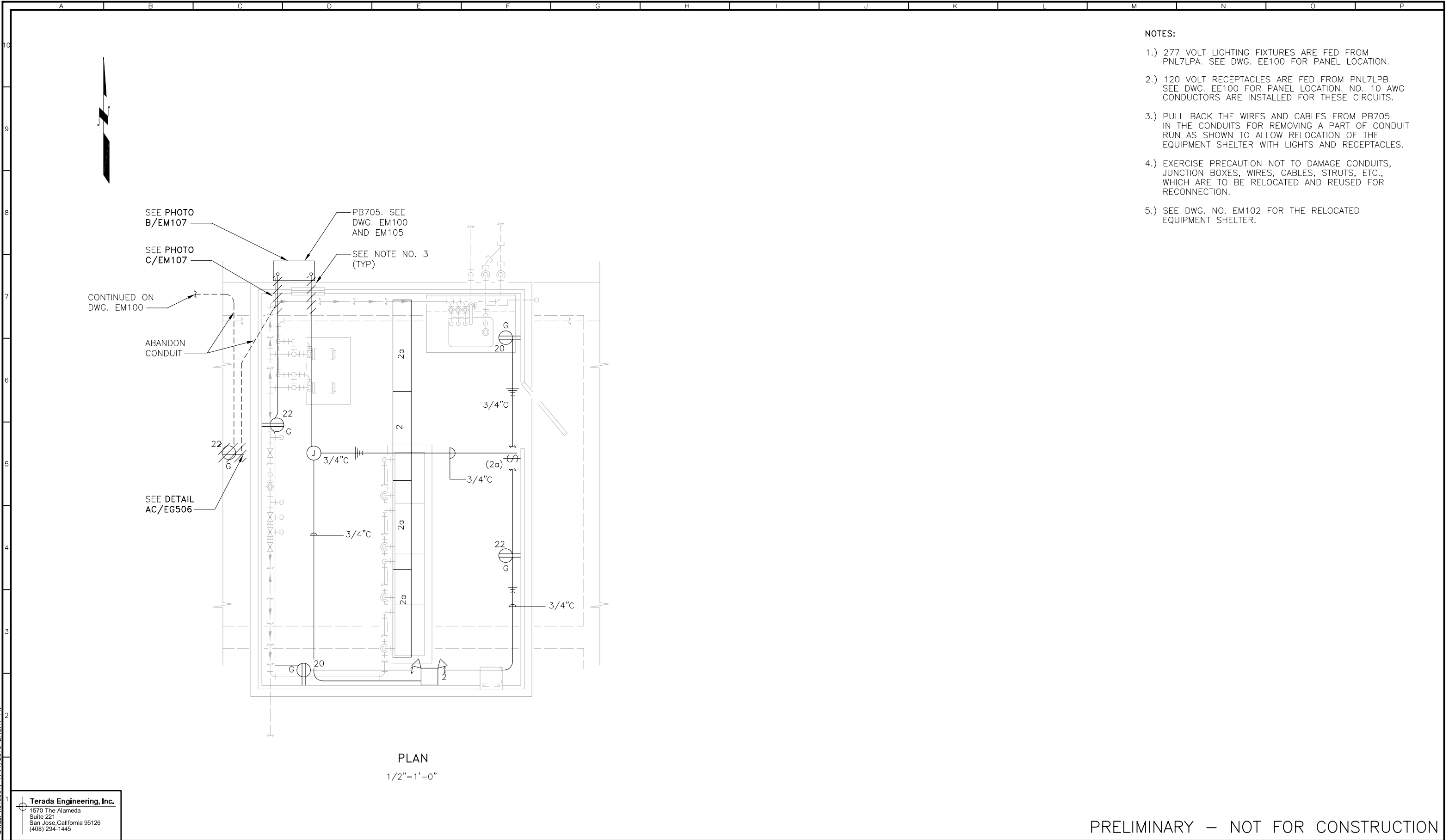
EXISTING CHLORINE CONTACT TANK  
EQUIPMENT SHELTER PLANS  
AT EL. 120.0  
DEMOLITION

SCALE  
AS NOTED

DRAWING NUMBER  
**EM105**

SHEET NUMBER  
133 OF 236




PLOTTED: TUE0961, 1/14/2010, 2:49:51 PM  
 SAVED: TUE0961, 1/14/2010, 2:49:47 PM



- NOTES:
- 1.) 277 VOLT LIGHTING FIXTURES ARE FED FROM PNL7LPA. SEE DWG. EE100 FOR PANEL LOCATION.
  - 2.) 120 VOLT RECEPTACLES ARE FED FROM PNL7LPB. SEE DWG. EE100 FOR PANEL LOCATION. NO. 10 AWG CONDUCTORS ARE INSTALLED FOR THESE CIRCUITS.
  - 3.) PULL BACK THE WIRES AND CABLES FROM PB705 IN THE CONDUITS FOR REMOVING A PART OF CONDUIT RUN AS SHOWN TO ALLOW RELOCATION OF THE EQUIPMENT SHELTER WITH LIGHTS AND RECEPTACLES.
  - 4.) EXERCISE PRECAUTION NOT TO DAMAGE CONDUITS, JUNCTION BOXES, WIRES, CABLES, STRUTS, ETC., WHICH ARE TO BE RELOCATED AND REUSED FOR RECONNECTION.
  - 5.) SEE DWG. NO. EM102 FOR THE RELOCATED EQUIPMENT SHELTER.

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PRELIMINARY – NOT FOR CONSTRUCTION

 Building a world of difference		REVISIONS						LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)	FILE <b>EM106</b> DRAWN <u>L. R. CASTILLO</u> DESIGNED <u>R. TERADA</u> CHECKED _____	CONTRACT NUMBER _____	SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT OF SACRAMENTO COUNTY, CALIFORNIA	SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT WATER RECLAMATION FACILITY EXPANSION PROJECT – PHASE II	ELECTRICAL  CHLORINE CONTACT TANK EQUIPMENT SHELTER LIGHTING AND RECEPTACLE PLAN AT EL. 120.0 – DEMOLITION	SCALE AS NOTED
		ZONE	REV.	DESCRIPTION	BY	DATE	APP.							DRAWING NUMBER <b>EM106</b>
		100% SUBMITTAL												



PLOTTED: TUE0961, 1/14/2010, 2:50:55 PM  
 SAVED: TUE0961, 1/14/2010, 2:50:52 PM

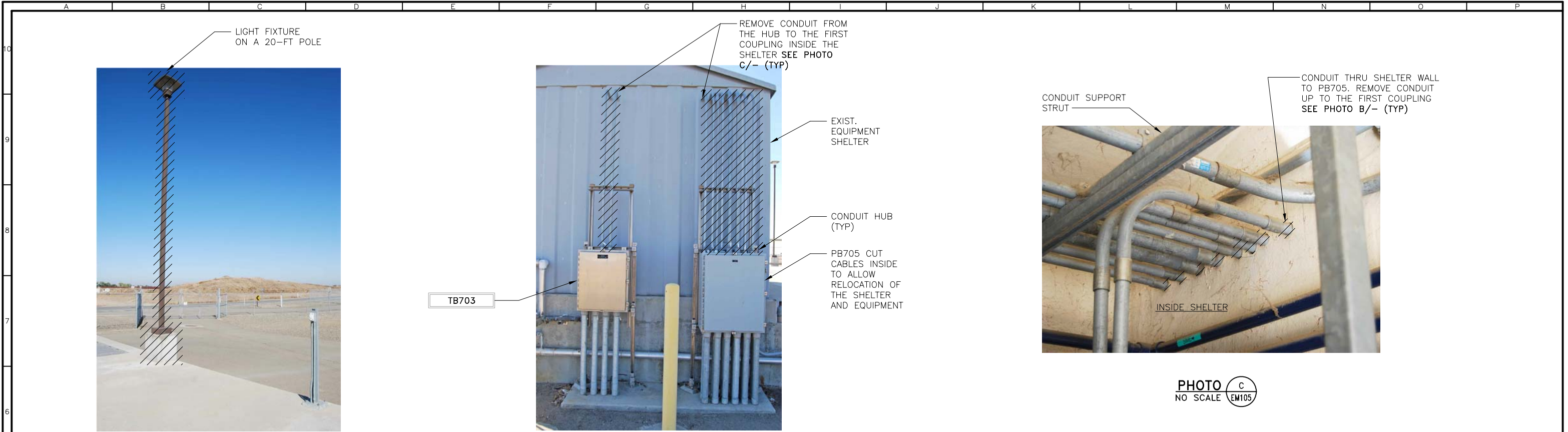


PHOTO A  
 NO SCALE EM100

PHOTO B  
 NO SCALE EM105

PHOTO C  
 NO SCALE EM105

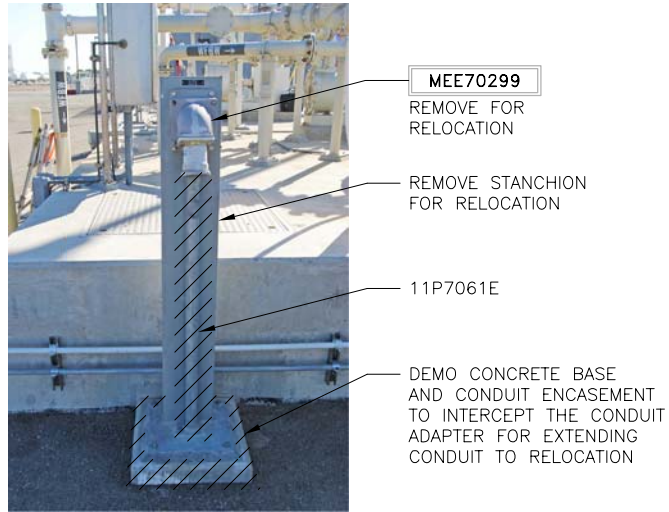


PHOTO D  
 NO SCALE EM101

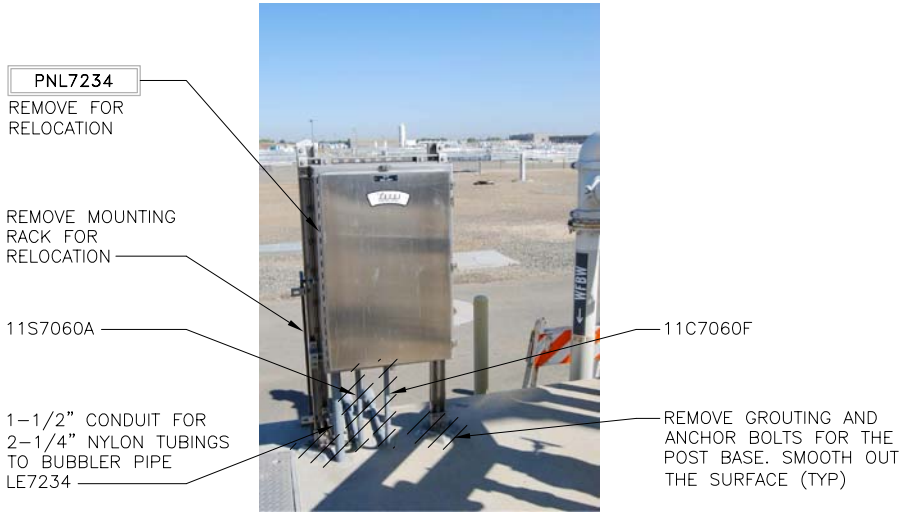


PHOTO E  
 NO SCALE EM101

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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	ISSUED FOR 90% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)	
FILE	EM107
DRAWN	G. TIJERO
DESIGNED	R. TERADA
CHECKED	

CONTRACT NUMBER
-----------------

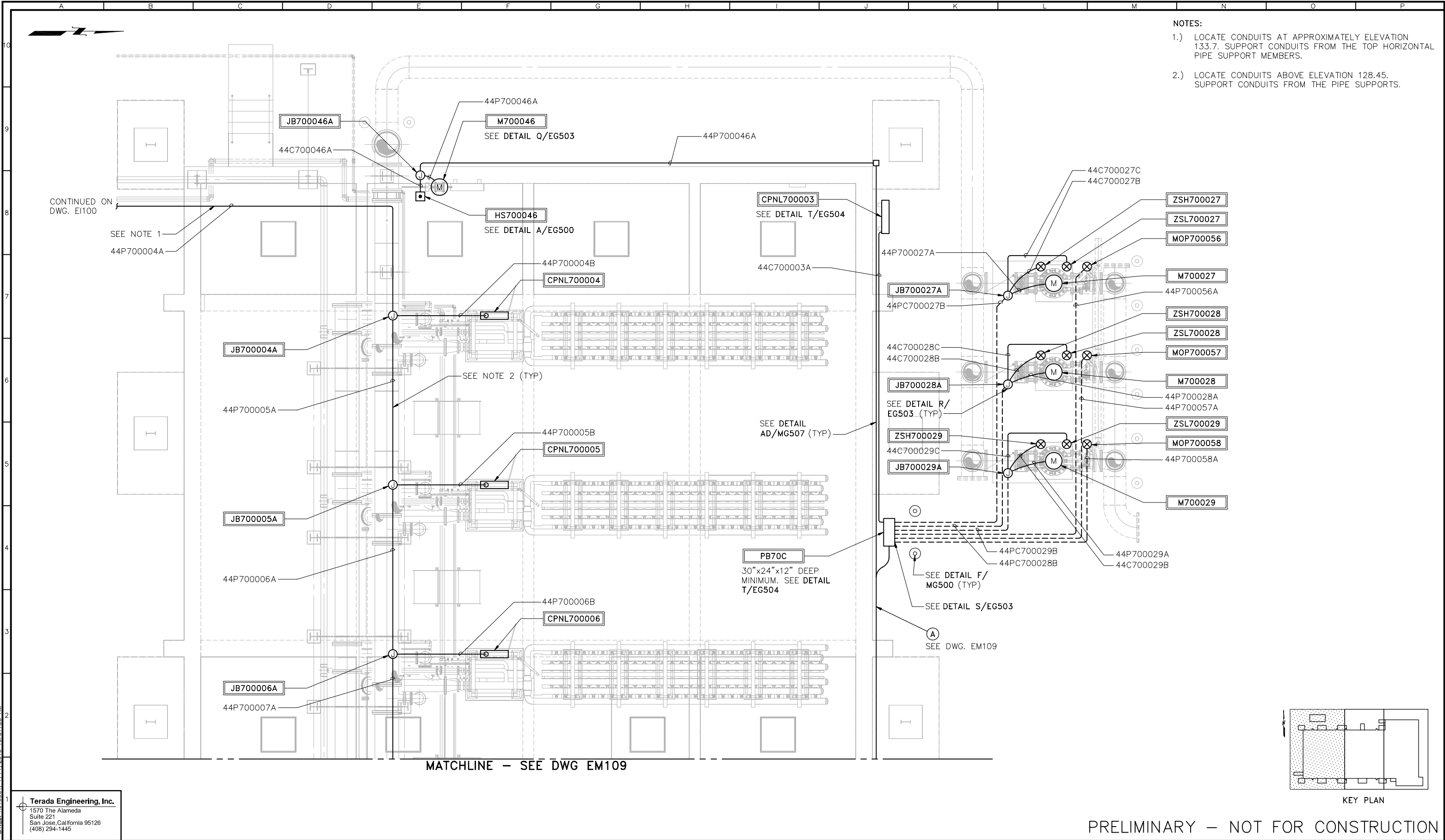
SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT OF SACRAMENTO COUNTY, CALIFORNIA
SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT WATER RECLAMATION FACILITY EXPANSION PROJECT – PHASE II

ELECTRICAL
EXISTING CHLORINE CONTACT TANK PHOTO DETAILS

SCALE AS NOTED
DRAWING NUMBER EM107
SHEET NUMBER 135 OF 236

PRELIMINARY – NOT FOR CONSTRUCTION

PLOTTED: T:\40961\_1\14/2010\_10:58:09 AM  
 SAVD: T:\40961\_1\14/2010\_10:57:58 AM  
 F:\B342202  
 BDR342202



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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	ISSUED FOR 90% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2" SCALE ACCORDINGLY)

FILE **EM108**

DRAWN **G. TIJERO**

DESIGNED **R. TERADA**

CHECKED \_\_\_\_\_

CONTRACT NUMBER \_\_\_\_\_

SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT WATER RECLAMATION FACILITY EXPANSION PROJECT - PHASE II

ELECTRICAL

MEMBRANE FILTRATION FACILITY POWER AND CONTROL PLAN 1 OF 3

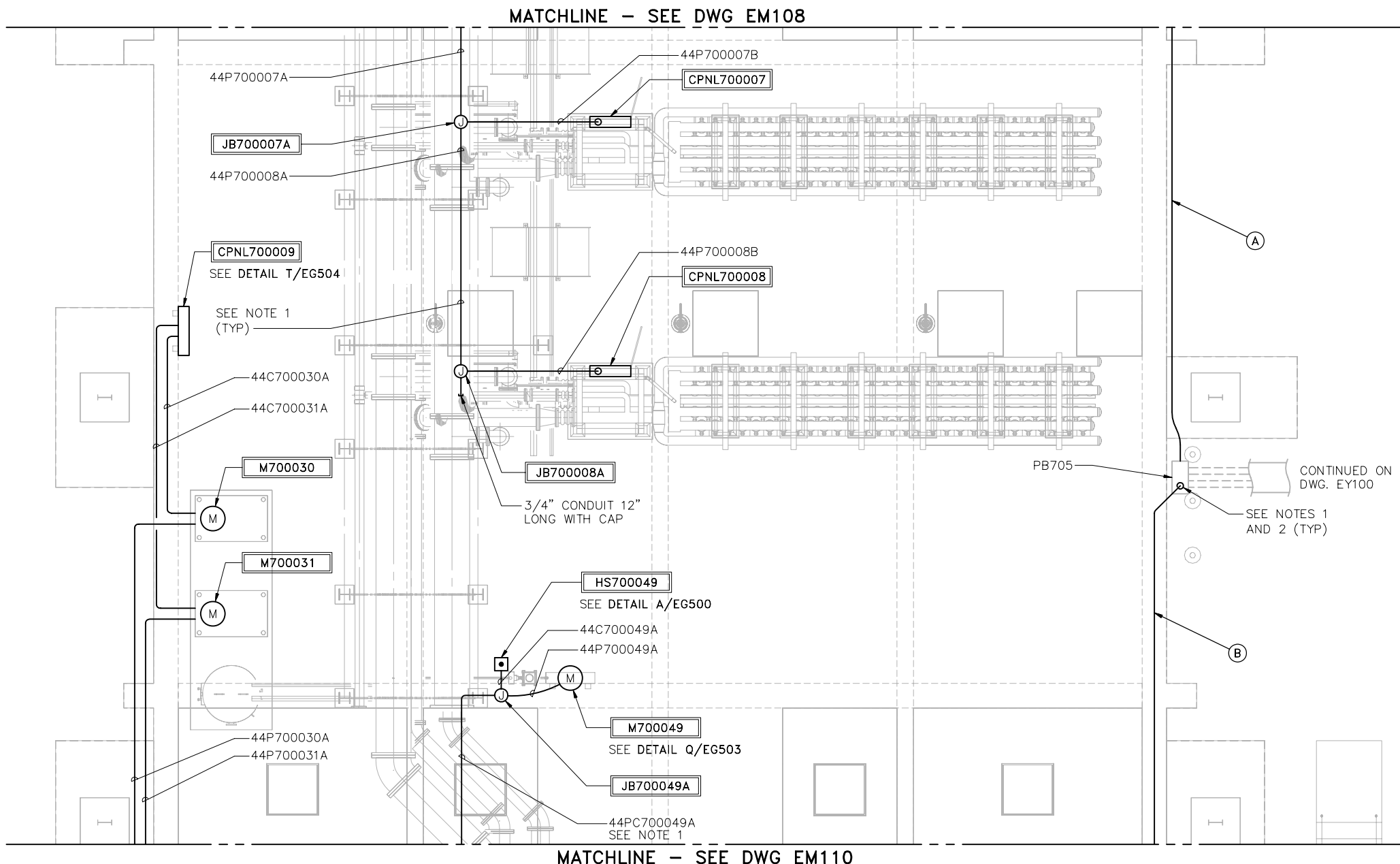
SCALE 1/4"=1'-0"

DRAWING NUMBER **EM108**

SHEET NUMBER 136 OF 236

PRELIMINARY – NOT FOR CONSTRUCTION

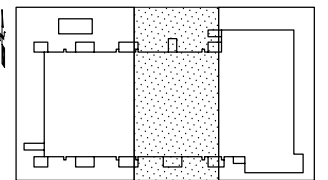
PLOTTED: T:\40961\_1\14\_2010\_2-59-11 PM  
 SAVD: T:\40961\_12\30\_2009 10:04:05 AM  
 F00342202  
 BDR342202



- NOTE:
- 1.) LOCATE CONDUITS ABOVE ELEVATION 128.45. SUPPORT CONDUITS FROM THE PIPE SUPPORTS.
  - 2.) TERMINATE CONDUITS IN THE SAME ARRANGEMENT AND ORDER AS FOUND FOR EXISTING CONDITION. SEE **PHOTO B/EM107**.
  - 3.) CONNECT WIRES SO THAT THE EXISTING WIRES AT EXISTING PB705 ARE CONNECTED TO THE CORRESPONDING EXISTING WIRES AT PB70D.

CONDUIT RUNS CONTAIN:

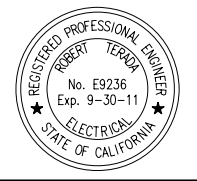
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44PC700028A  
44PC700029A  
44PC700046A
- (B) 44P7XXXX  
44P7LPB26A1  
44P7LPC11D1  
44C7064B1  
44P7LPA02F1  
44P7LPB20F1  
44PC7063E1  
44PC7062E1



KEY PLAN

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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	ISSUED FOR 90% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES  
 AT FULL SIZE  
 (IF NOT 2"-SCALE ACCORDINGLY)

FILE **EM109**  
 DRAWN G. TIJERO  
 DESIGNED R. TERADA  
 CHECKED \_\_\_\_\_

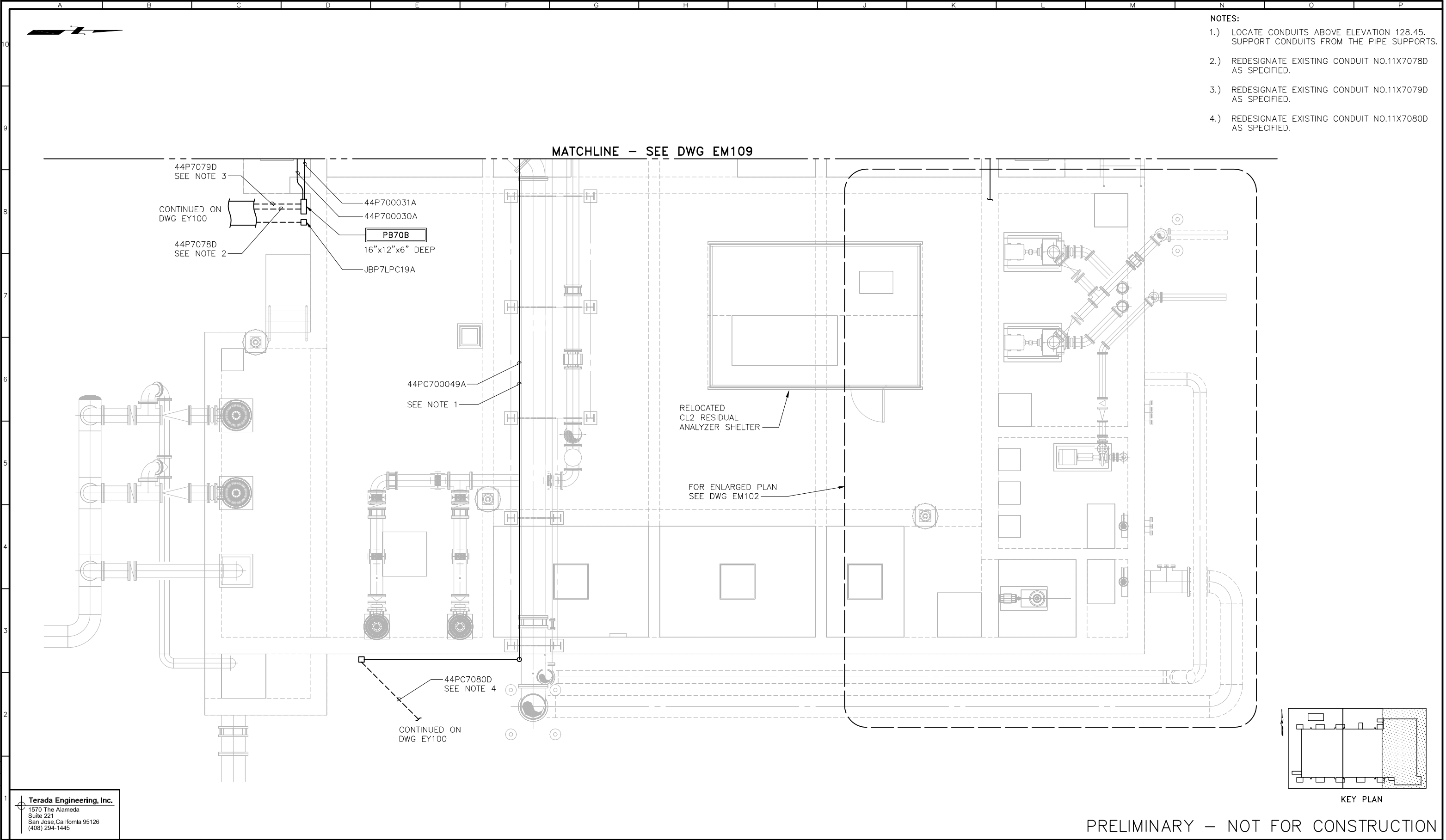
CONTRACT NUMBER \_\_\_\_\_

SACRAMENTO REGIONAL COUNTY  
 SANITATION DISTRICT  
 OF SACRAMENTO COUNTY, CALIFORNIA  
 SACRAMENTO REGIONAL  
 WASTEWATER TREATMENT PLANT  
 WATER RECLAMATION FACILITY  
 EXPANSION PROJECT – PHASE II

ELECTRICAL  
 MEMBRANE FILTRATION FACILITY  
 POWER AND CONTROL PLAN  
 2 OF 3

SCALE  
 1/4"=1'-0"  
 DRAWING NUMBER  
**EM109**  
 SHEET NUMBER  
 137 OF 236

PLOTTED: T:\40961\_1\14\_2010\_3:06:15 PM  
 SAVES: T:\40961\_12\30\_2009\_10:11:31 AM  
 F:\BDR342202  
 BDR342202



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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	ISSUED FOR 90% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES  
 AT FULL SIZE  
 (IF NOT 2"-SCALE ACCORDINGLY)

FILE **EM110**  
 DRAWN **G. TIJERO**  
 DESIGNED **R. TERADA**  
 CHECKED \_\_\_\_\_

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
 SANITATION DISTRICT  
 OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
 WASTEWATER TREATMENT PLANT  
 WATER RECLAMATION FACILITY  
 EXPANSION PROJECT – PHASE II

ELECTRICAL  
 MEMBRANE FILTRATION FACILITY  
 POWER AND CONTROL PLAN  
 3 OF 3

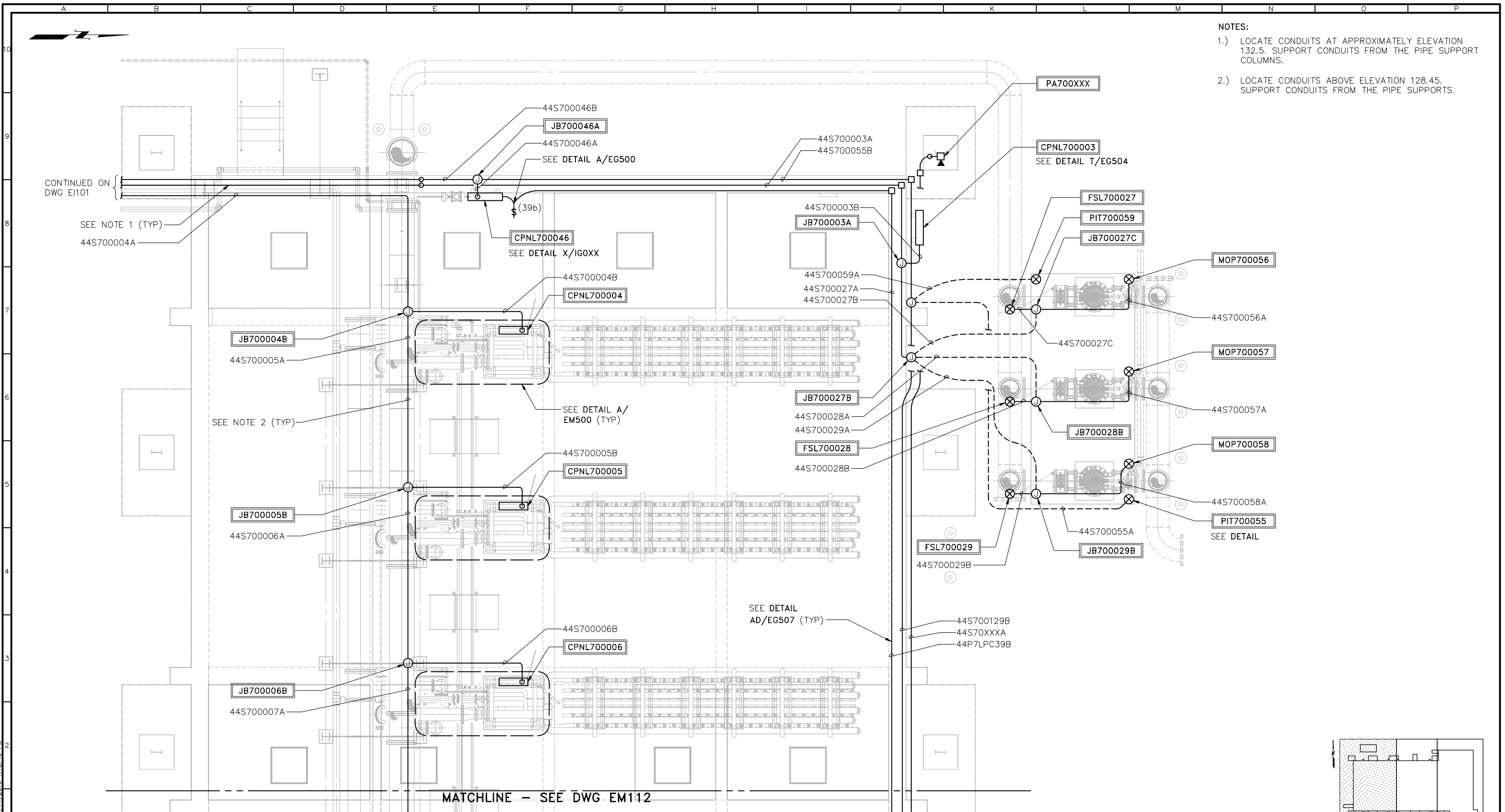
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DRAWING NUMBER  
**EM110**

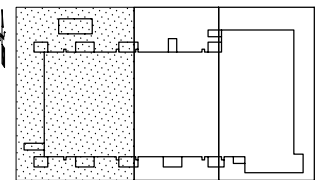
SHEET NUMBER  
 138 OF 236

PRELIMINARY – NOT FOR CONSTRUCTION

PLOTTED: T:\40961\_1\14/2010\_1:14:01 PM  
 T:\40961\_1\14/2010\_1:13:46 PM  
 BDR342202



- NOTES:
- 1.) LOCATE CONDUITS AT APPROXIMATELY ELEVATION 132.5. SUPPORT CONDUITS FROM THE PIPE SUPPORT COLUMNS.
  - 2.) LOCATE CONDUITS ABOVE ELEVATION 128.45. SUPPORT CONDUITS FROM THE PIPE SUPPORTS.



KEY PLAN

PRELIMINARY – NOT FOR CONSTRUCTION

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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	ISSUED FOR 90% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES  
 AT FULL SIZE  
 (IF NOT 2"=SCALE ACCORDINGLY)  
 FILE **EM111**  
 DRAWN **G. TIJERO**  
 DESIGNED **R. TERADA**  
 CHECKED \_\_\_\_\_

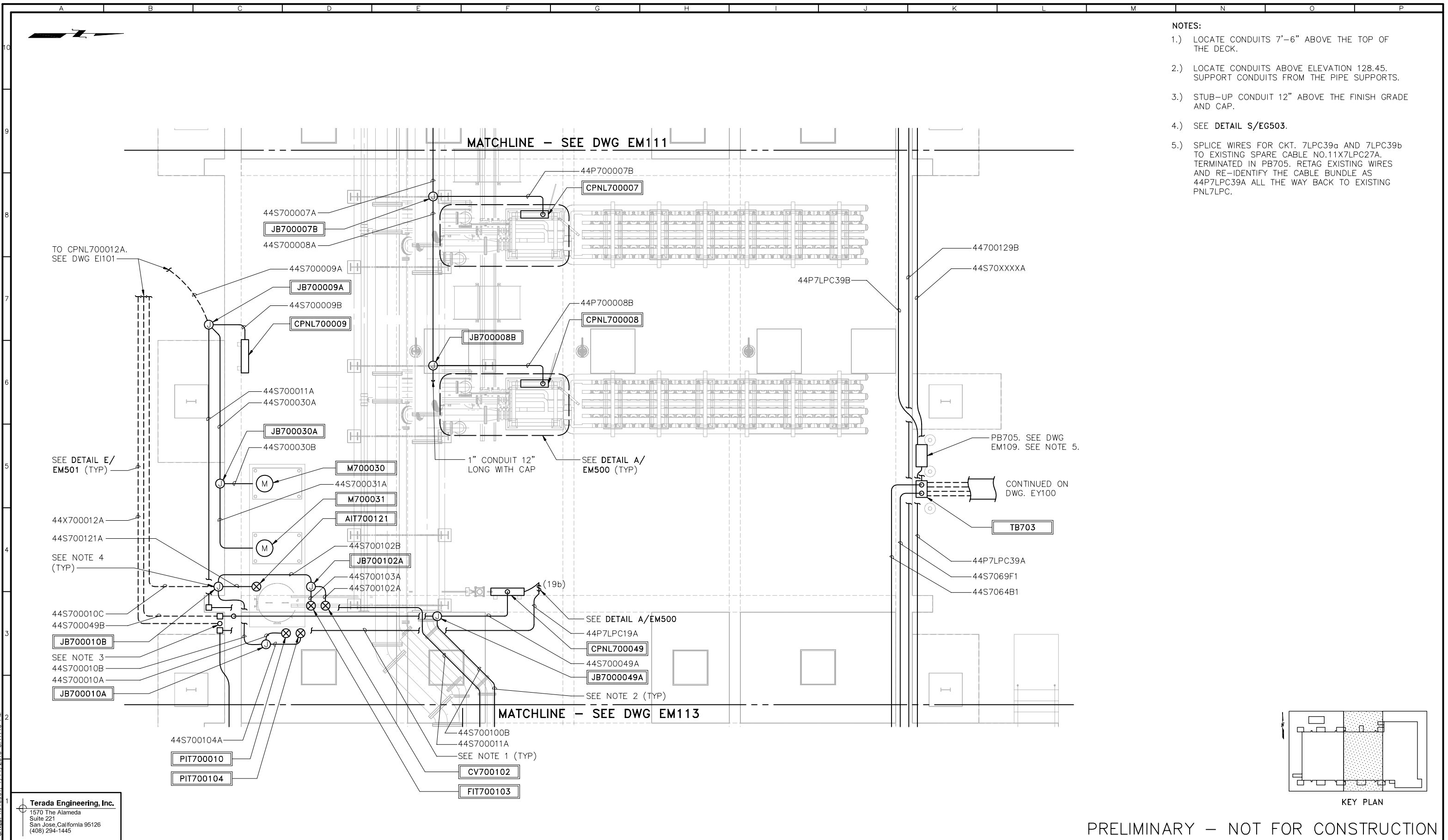
CONTRACT NUMBER \_\_\_\_\_

SACRAMENTO REGIONAL COUNTY  
 SANITATION DISTRICT  
 OF SACRAMENTO COUNTY, CALIFORNIA  
 SACRAMENTO REGIONAL  
 WASTEWATER TREATMENT PLANT  
 WATER RECLAMATION FACILITY  
 EXPANSION PROJECT – PHASE II

ELECTRICAL  
 MEMBRANE FILTRATION FACILITY  
 INSTRUMENTATION AND COMMUNICATION  
 1 OF 3

SCALE  
 1/4"=1'-0"  
 DRAWING NUMBER  
**EM111**  
 SHEET NUMBER  
 139 OF 236

PLOTTED: T:\40961\_1\14/2010\_3-22-30 PM  
 SAVD: T:\40961\_1\14/2010\_3-17-10 PM  
 F00342202  
 BDR342202



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San Jose, California 95126  
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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	ISSUED FOR 90% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)

FILE **EM112**

DRAWN G. TIJERO

DESIGNED R. TERADA

CHECKED \_\_\_\_\_

CONTRACT NUMBER \_\_\_\_\_

SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT WATER RECLAMATION FACILITY EXPANSION PROJECT - PHASE II

ELECTRICAL

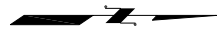
MEMBRANE FILTRATION FACILITY INSTRUMENTATION AND COMMUNICATION PLAN 2 OF 3

SCALE  
1/4"=1'-0"

DRAWING NUMBER  
**EM112**

SHEET NUMBER  
140 OF 236

PLOTTED: TUE0961 1/14/2010 3:27:57 PM  
 SAVED: TUE0961 1/14/2010 3:27:55 PM



NOTE:  
 1.) LOCATE CONDUITS ABOVE ELEVATION 128.45.  
 SUPPORT CONDUITS FROM THE PIPE SUPPORTS.

MATCHLINE – SEE DWG EM112

JBP7LPC10A  
SEE DWG. EM110

44S700100A

FE700100

SEE NOTE NO. 1 (TYP)

44S700011A

44S700100B

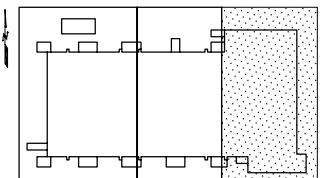
FIT700100  
SEE DETAIL A/EG500

SEE DETAIL A/EG500

RELOCATED  
CL2 RESIDUAL  
ANALYZER SHELTER

DPSH700011

FOR ENLARGED PLAN  
SEE DWG EM102



KEY PLAN

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ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	A	ISSUED FOR 90% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES  
 AT FULL SIZE  
 (IF NOT 2"=SCALE ACCORDINGLY)

FILE **EM113**  
 DRAWN **G. TIJERO**  
 DESIGNED **R. TERADA**  
 CHECKED \_\_\_\_\_

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
 SANITATION DISTRICT  
 OF SACRAMENTO COUNTY, CALIFORNIA  
 SACRAMENTO REGIONAL  
 WASTEWATER TREATMENT PLANT  
 WATER RECLAMATION FACILITY  
 EXPANSION PROJECT – PHASE II

ELECTRICAL  
 MEMBRANE FILTRATION FACILITY  
 INSTRUMENTATION AND COMMUNICATION PLAN  
 3 OF 3

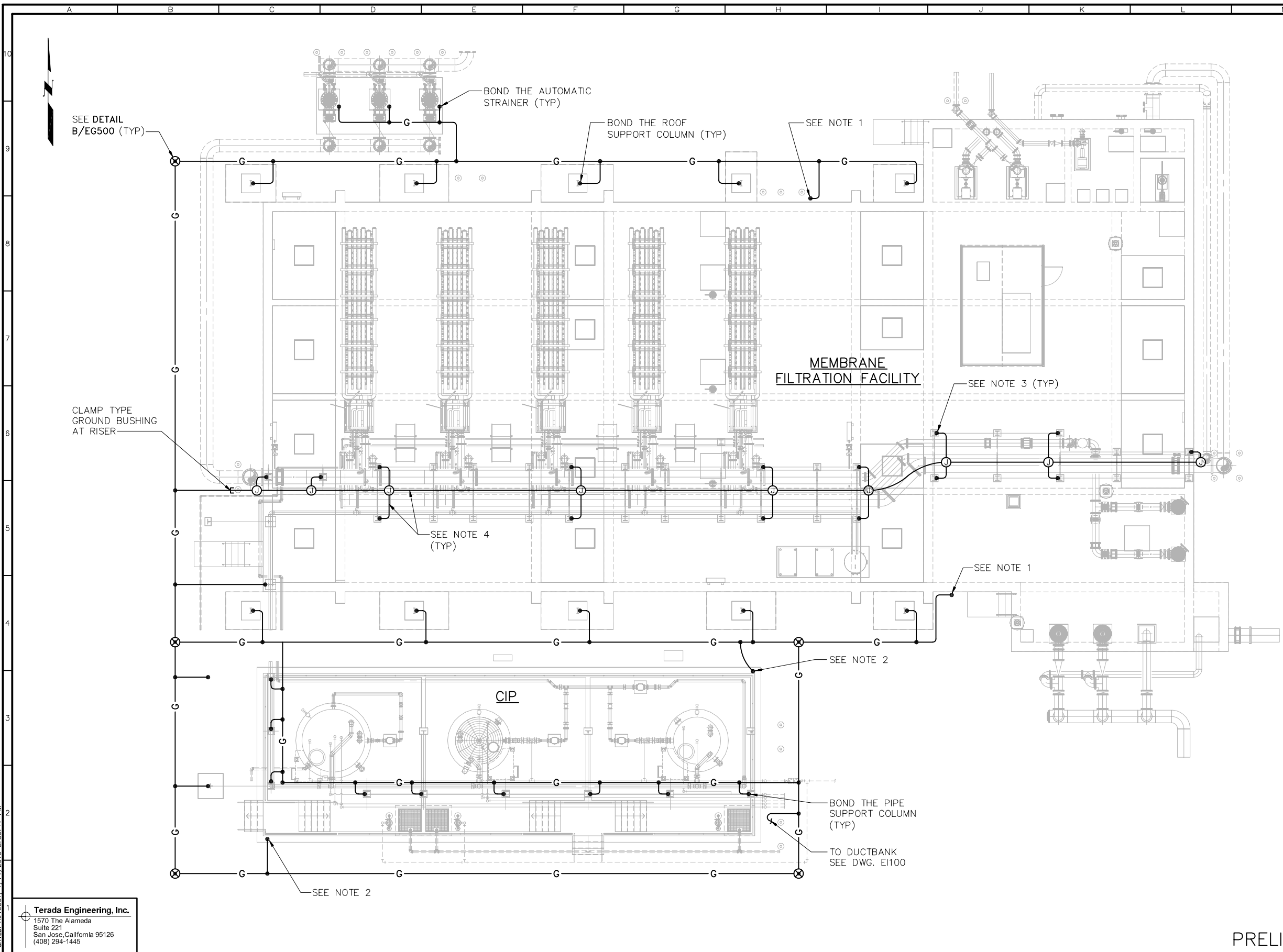
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 1/4"=1'-0"  
 DRAWING NUMBER  
**EM113**  
 SHEET NUMBER  
 141 OF 236

PRELIMINARY – NOT FOR CONSTRUCTION

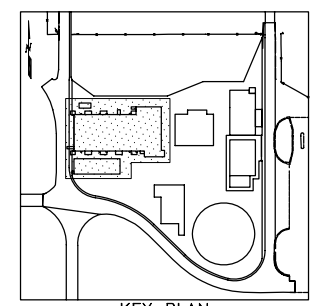




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 F:\B342202  
 BDR342202



- NOTES:**
- 1.) BOND TO THE EXISTING GROUND CONDUCTOR FOR THE EXISTING DUCTBANK TERMINATED AT THE CONDUIT STUB-UPS. CLEAN SURFACES OF THE EXISTING CONNECTOR FOR LOW RESISTANT METAL-TO-METAL CONTACT.
  - 2.) EXOTHERMIC WELD TO A HORIZONTAL REBAR LONGER THAN 20 FEET NEAR THE BOTTOM OF FOOTING.
  - 3.) BOND THE PIPE SUPPORT ASSEMBLY AT NEAR THE TOP OF COLUMN. BOND THE CONDUIT WITH CLAMP TYPE BUSHING WHERE THE GROUND CONDUCTOR EXITS THE CONDUIT AT 6" FROM THE SUPPORT/CONDUCTOR CONNECTION.
  - 4.) INSTALL 1" CONDUIT WITH GROUND CONDUCTOR AT TOP OF THE SUPPORT ASSEMBLY EL 134.28.



PRELIMINARY – NOT FOR CONSTRUCTION

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REVISIONS				
ZONE	REV.	DESCRIPTION	BY	DATE
	A	ISSUED FOR 90% SUBMITTAL		09/09
	B	90% SUBMITTAL		11/09
	C	100% SUBMITTAL		01/10

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)

FILE **EM115**

DRAWN **G. TIJERO**

DESIGNED **R. TERADA**

CHECKED \_\_\_\_\_

CONTRACT NUMBER \_\_\_\_\_

SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT WATER RECLAMATION FACILITY EXPANSION PROJECT – PHASE II

ELECTRICAL

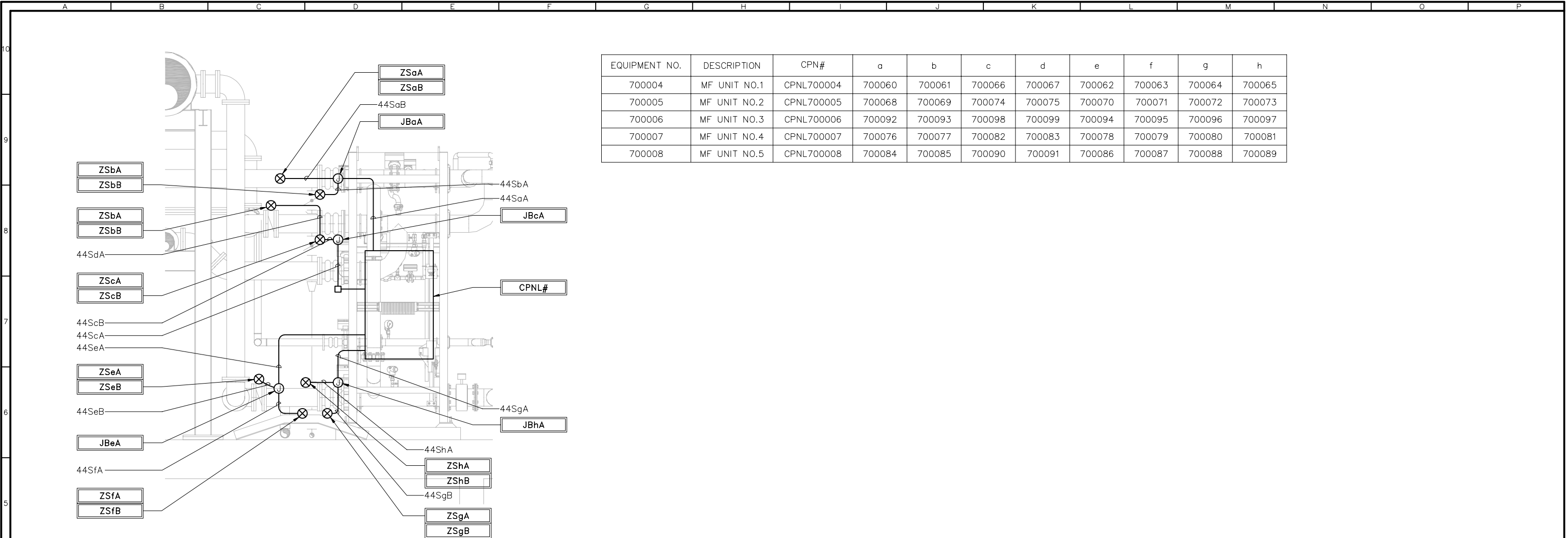
MEMBRANE FILTRATION FACILITY GROUNDING PLAN

SCALE  
1/8"=1'-0"

DRAWING NUMBER  
**EM115**

SHEET NUMBER  
143 OF 236

PLOTTED: T:\40961\_1\14\_2010\_3:39:09 PM  
 SAVED: T:\40961\_12\16\_2009\_3:56:06 PM  
 F:\BDR342202  
 BDR342202



EQUIPMENT NO.	DESCRIPTION	CPN#	a	b	c	d	e	f	g	h
700004	MF UNIT NO.1	CPNL700004	700060	700061	700066	700067	700062	700063	700064	700065
700005	MF UNIT NO.2	CPNL700005	700068	700069	700074	700075	700070	700071	700072	700073
700006	MF UNIT NO.3	CPNL700006	700092	700093	700098	700099	700094	700095	700096	700097
700007	MF UNIT NO.4	CPNL700007	700076	700077	700082	700083	700078	700079	700080	700081
700008	MF UNIT NO.5	CPNL700008	700084	700085	700090	700091	700086	700087	700088	700089

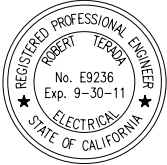
TYPICAL MF BLOCK AND BLEED VALVE  
 LIMIT SWITCH CONDUIT RUNS

DETAIL  
 1/2"=1'-0"



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	A	ISSUED FOR 90% SUBMITTAL		09/09	
	B	90% SUBMITTAL		11/09	
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)	
FILE	EM500
DRAWN	G. TIJERO
DESIGNED	R. TERADA
CHECKED	

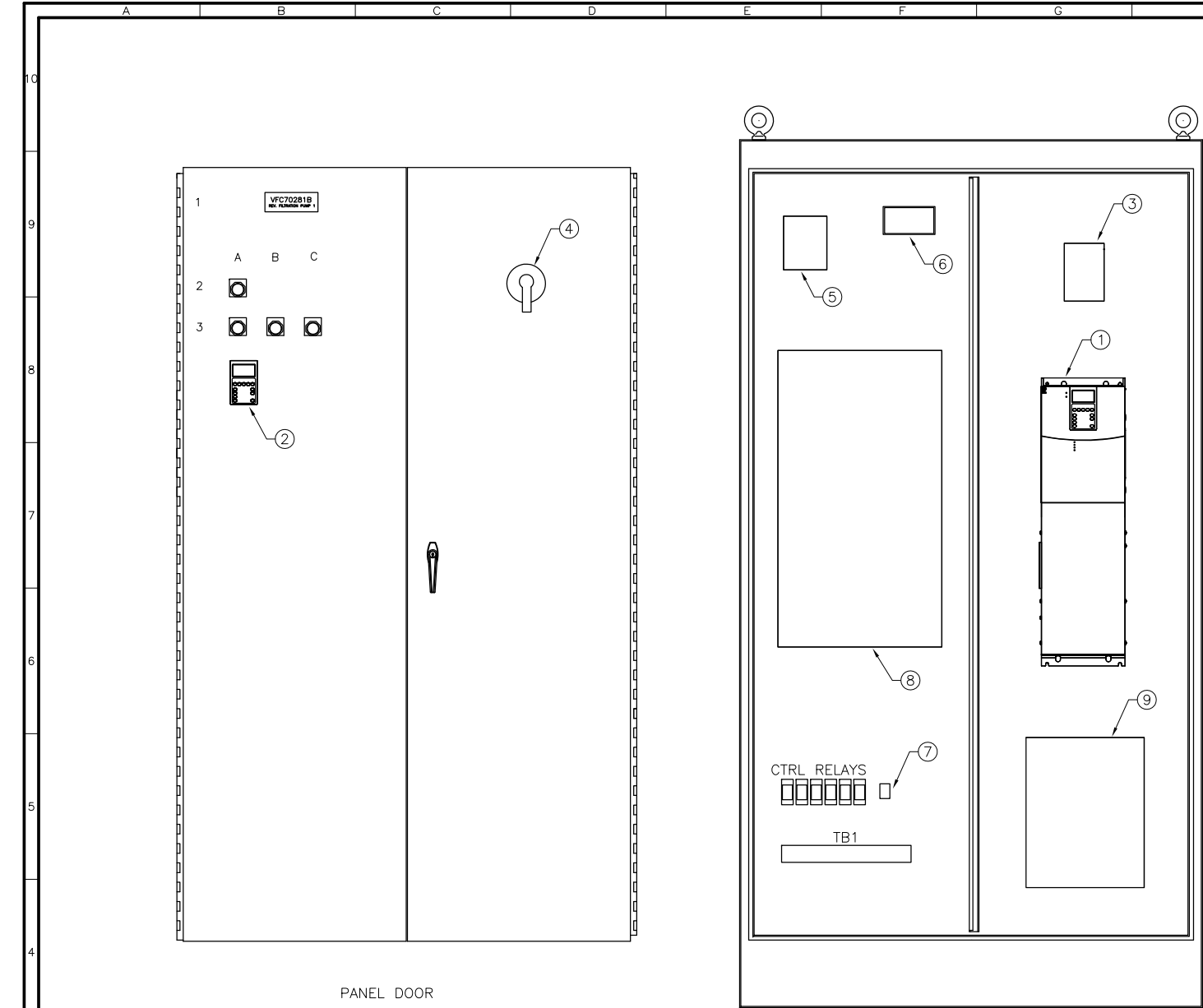
CONTRACT NUMBER
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SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT OF SACRAMENTO COUNTY, CALIFORNIA
SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT WATER RECLAMATION FACILITY EXPANSION PROJECT – PHASE II

ELECTRICAL
MEMBRANE FILTRATION FACILITY DETAIL

SCALE AS NOTED
DRAWING NUMBER EM500
SHEET NUMBER 144 OF 236

PRELIMINARY – NOT FOR CONSTRUCTION



NOTES

- GENERAL – ALL WIRING TO THE PANEL ENTER FROM THE TOP.
- NAMEPLATE: UNLESS OTHERWISE STATED, BLACK W/ WHITE LETTERS. LAMINATED PHENOLIC TYPE
- NAMEPLATE TO BE ATTACHED W/ S.S. SCREWS.
- PROVIDE 10 SPARE TERMINAL BLOCKS FOR TB1.
- ENCLOSE ALL WIRING CROSSING DOOR HINGES WITH SPIRAL WRAP.
- MOUNT FAN AND EXHAUST GRILL ON LEFT SIDE OF PANEL.

PANEL BILL OF MATERIALS

QTY	MFG	CATALOG	DESCRIPTION
1	HOFFMAN	A904820FSD	ENCLOSURE, NEMA 12, TWO DOOR, 90" (H), 48" (W), 20" (D)
1	HOFFMAN	A90P48F1	ENC. BACK PANEL, 78" (H), 44" (W)
1	ALLEN-BRADLEY	20BD077A3ANNANA0	POWERFLEX 700, 480V, 77A, 60HP VFD, FRAME SIZE 4, STANDARD 24V I/O
1	ALLEN-BRADLEY	20-HIM-C3S	DOOR MOUNT VFD DISPLAY WITH CABLE
1	CUTLER-HAMMER	HMCP100L3C	100A MOTOR CIRCUIT PROTECTOR, TYPE HMCP, 3 POLE
1	CUTLER-HAMMER	FHMVD16B	UNIVERSAL ROTARY HANDLE MECHANISM FOR F-FRAME CB
1	ACME ELECTRIC	TB-81215	CONTROL TRANSFORMER, 480-120VAC, 500VA
1	ACME ELECTRIC	PL-112704	PRIMARY FUSE BLOCK
1	ACME ELECTRIC	PL-79931	SECONDARY FUSE BLOCK
1	MARATHON	1323572	OUTPUT POWER TB
1	MARATHON	CH 1323	SNAP-ON HINGED COVER FOR OUTPUT POWER TB
1	HOFFMAN	TFP41	COOLING FAN / AIR FILTER / GRILLE
1	HOFFMAN	TEP4	EXHAUST GRILLE / AIR FILTER
1	HOFFMAN	A-TEMNO	THERMOSTAT
1	TCI	HG60AW00STC	INPUT HARMONIC FILTER W/ CONTACTOR, OPEN TYPE, 60HP
1	ALLEN-BRADLEY	1321-RWR80-DP	REFLECTIVE WAVE FILTER
1	ALLEN-BRADLEY	800T-PH16W	PILOT LIGHT, LED-TRANSFORMER TYPE, 120AC, WHITE
1	ALLEN-BRADLEY	800T-PTH16G	PILOT LIGHT, LED-TRANSFORMER TYPE, 120AC, PUSH-TO-TEST, GREEN
1	ALLEN-BRADLEY	800T-PTH16R	PILOT LIGHT, LED-TRANSFORMER TYPE, 120AC, PUSH-TO-TEST, RED
1	ALLEN-BRADLEY	800T-PTH16A	PILOT LIGHT, LED-TRANSFORMER TYPE, 120AC, PUSH-TO-TEST, AMBER
6	IDEC	RU4S-A110	CONTROL RELAY, FORM C, 4 POLE, 120VAC, INDICATOR LT
6	IDEC	SY4S-05	RELAY SOCKET
40	PHOENIX CONTACT	30 04 36 2	TERMINAL BLOCKS UK5N
	AS NEEDED		MISC. CTRL FUSES, PANDUIT, SPIRAL WRAP, NAMEPLATES, WIRE, DINRAIL

NAMEPLATE SCHEDULE

DRAWING TAG	QUANTITY	TYPE	SIZE	LETTER SIZE	INSCRIPTION	ALLEN-BRADLEY P/N
1	1	PLATE	2.0" X 5.5"	1/2" 1/4"	SEE TABLE BELOW	
2A	1	RING	30.5 mm	1/8	POWER ON	800H-W100E
3A	1	RING	30.5 mm	1/8	READY	800H-W100E
3B	1	RING	30.5 mm	1/8	RUN	800H-W100E
3C	1	RING	30.5 mm	1/8	FAULT	800H-W100E

TAG 1 1ST LINE  
TAG 1 2ND LINE

PANEL NO.1	PANEL NO.2
VFC70281B REV. FILTRATION PUMP 1	VFC70282B REV. FILTRATION PUMP 2

PRELIMINARY – NOT FOR CONSTRUCTION

PLOTTED: 5/23/2022  
SHEET: 236

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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2" - SCALE ACCORDINGLY)

FILE FILE NAME  
DRAWN S. SIVAPRASAD  
DESIGNED SS  
CHECKED SS

TBD

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA  
  
SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY

PANEL LAYOUT AND MATERIAL LIST

REVERSE FILTRATION PUMP VFD PANEL  
VFC70281B/VFC70282B

SHEET 1 OF 1

SCALE

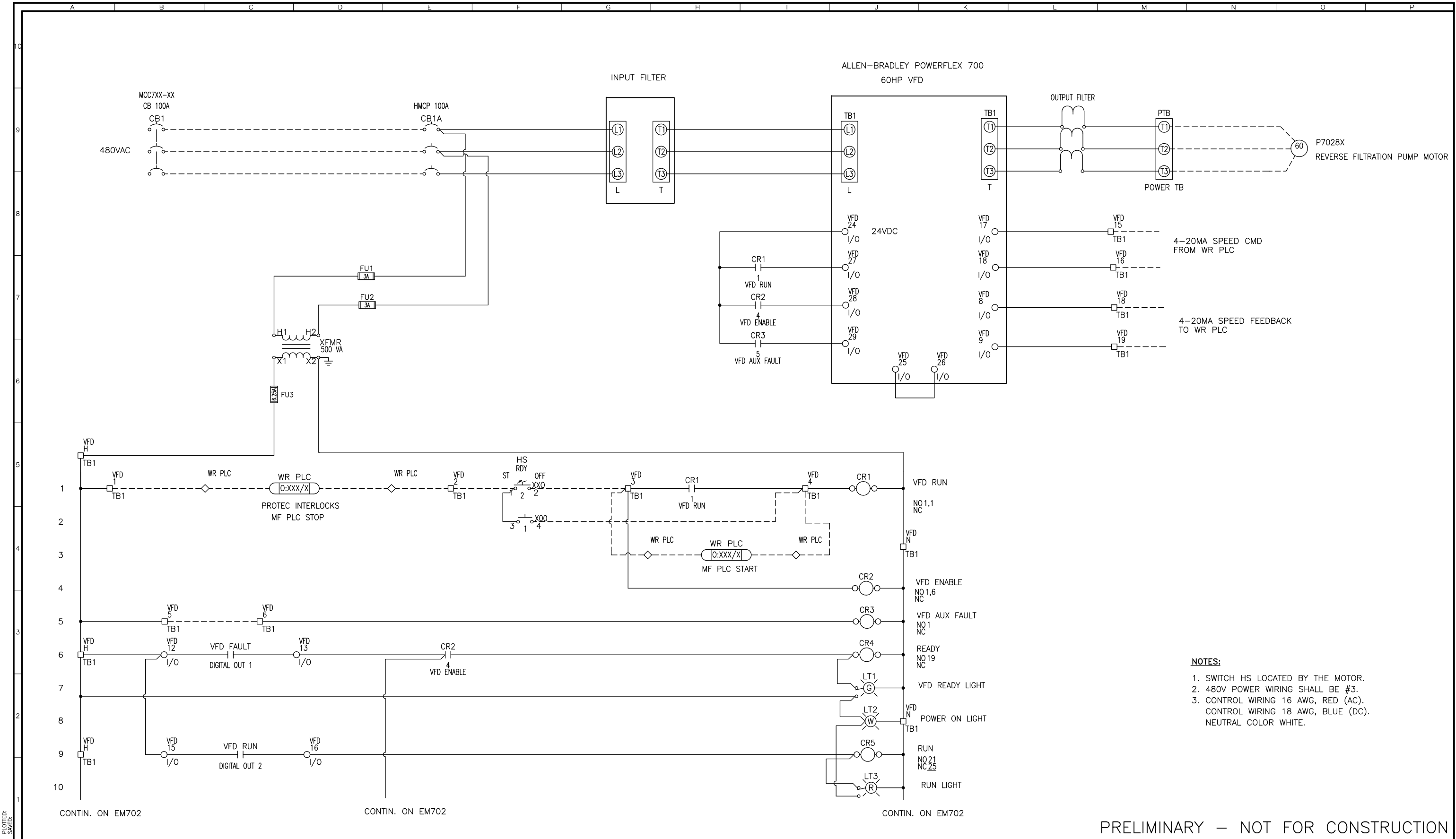
NO SCALE

DRAWING NUMBER

EM700

SHEET NUMBER

145 OF 236



- NOTES:**
- 1. SWITCH HS LOCATED BY THE MOTOR.
  - 2. 480V POWER WIRING SHALL BE #3.
  - 3. CONTROL WIRING 16 AWG, RED (AC).  
CONTROL WIRING 18 AWG, BLUE (DC).  
NEUTRAL COLOR WHITE.

PRELIMINARY – NOT FOR CONSTRUCTION

REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"=SCALE ACCORDINGLY)

FILE FILE NAME  
DRAWN S. SIVAPRASAD  
DESIGNED SS  
CHECKED SS

TBD  
CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY

VDF PANEL WIRING DIAGRAM

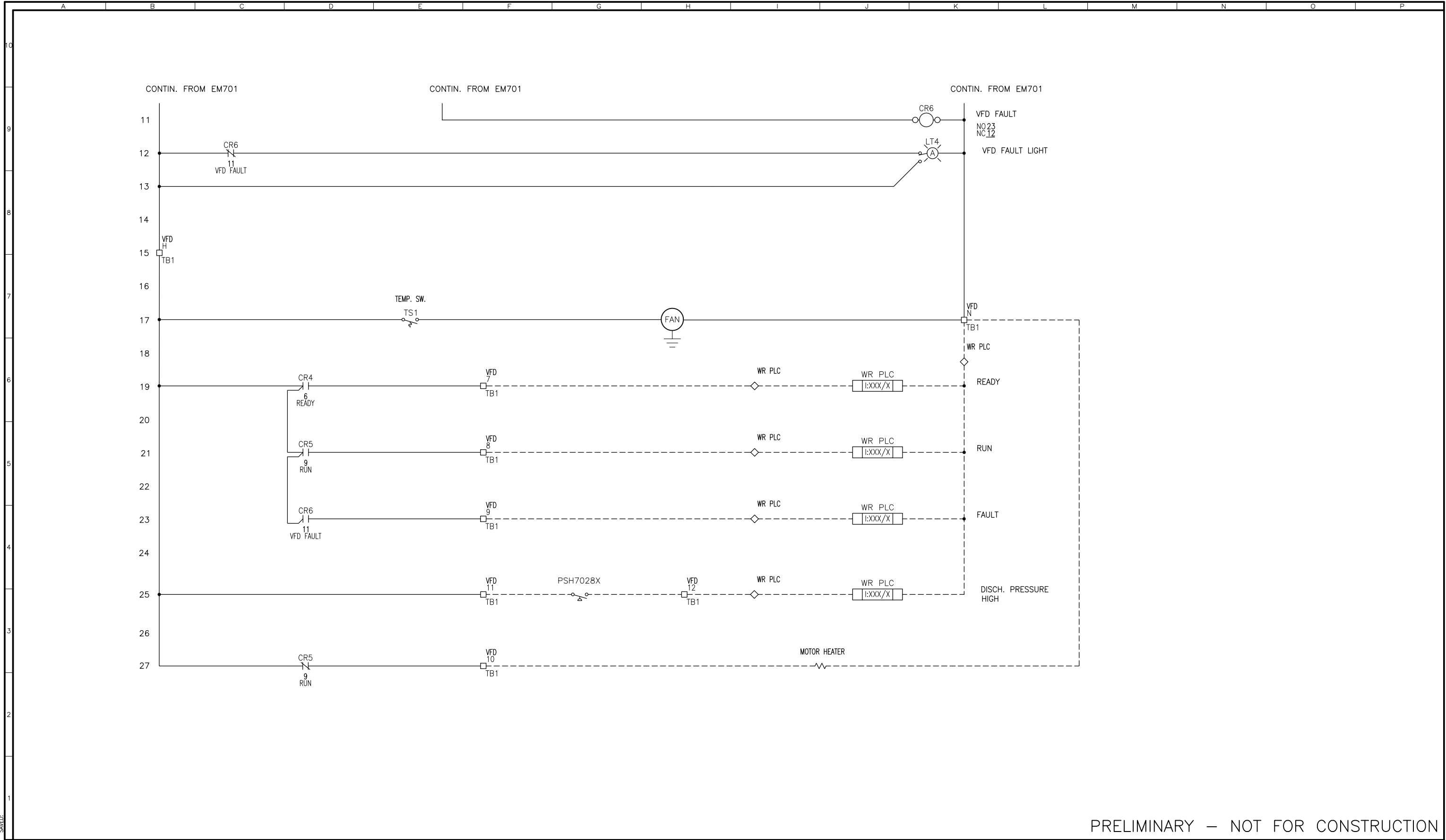
VFC70281B/VFC70282B

REVERSE FILTRATION PUMP 1 / PUMP2  
SHEET 1 OF 2



SCALE  
NO SCALE



DRAWING NUMBER  
**EM701**

SHEET NUMBER  
146 OF 236



PRELIMINARY – NOT FOR CONSTRUCTION





REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2" - SCALE ACCORDINGLY)

FILE FILE NAME  
DRAWN S. SIVAPRASAD  
DESIGNED SS  
CHECKED SS

TBD  
CONTRACT NUMBER

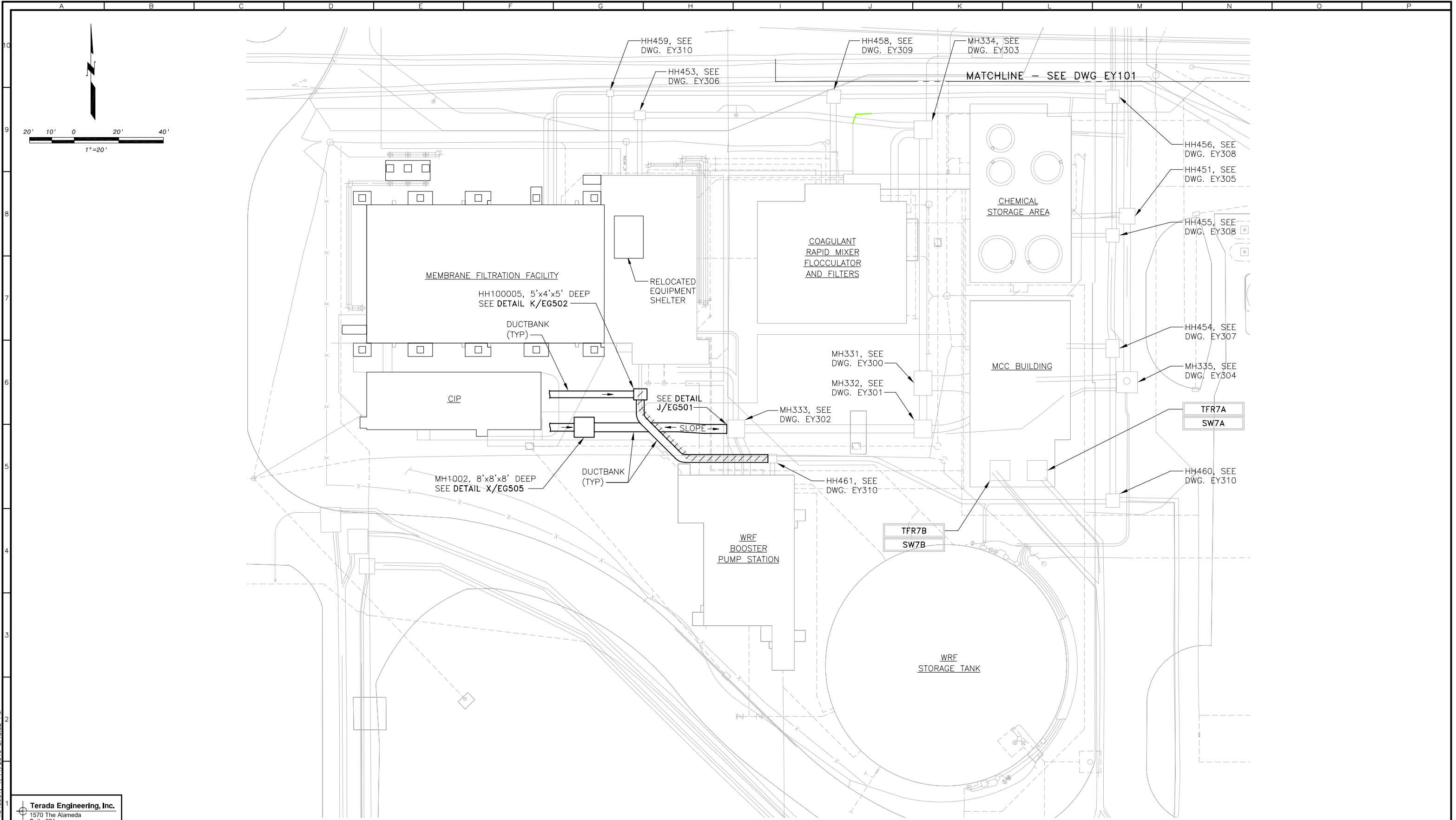
SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA  
  
SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY

CONTROL AND LOGIC DIAGRAM  
VFD PANEL WIRING DIAGRAM  
REVERSE FILTRATION PUMP 1/PUMP 2  
VFC70281B/VFC70282B

SCALE  
NO SCALE  
DRAWING NUMBER  
**EM702**  
SHEET NUMBER  
147 OF 236

PLOTTED: 05/03/2012  
SHEET: 147 OF 236

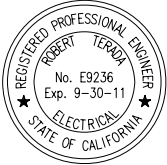
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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES  
 AT FULL SIZE  
 (IF NOT 2"=SCALE ACCORDINGLY)

FILE **EY100**  
 DRAWN **L. R. CASTILLO**  
 DESIGNED **R. TERADA**  
 CHECKED \_\_\_\_\_

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
 SANITATION DISTRICT  
 OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
 WASTEWATER TREATMENT PLANT  
 WATER RECLAMATION FACILITY  
 EXPANSION PROJECT — PHASE II

ELECTRICAL

SITE PLAN  
 AREA 1

SCALE

NONE

DRAWING NUMBER

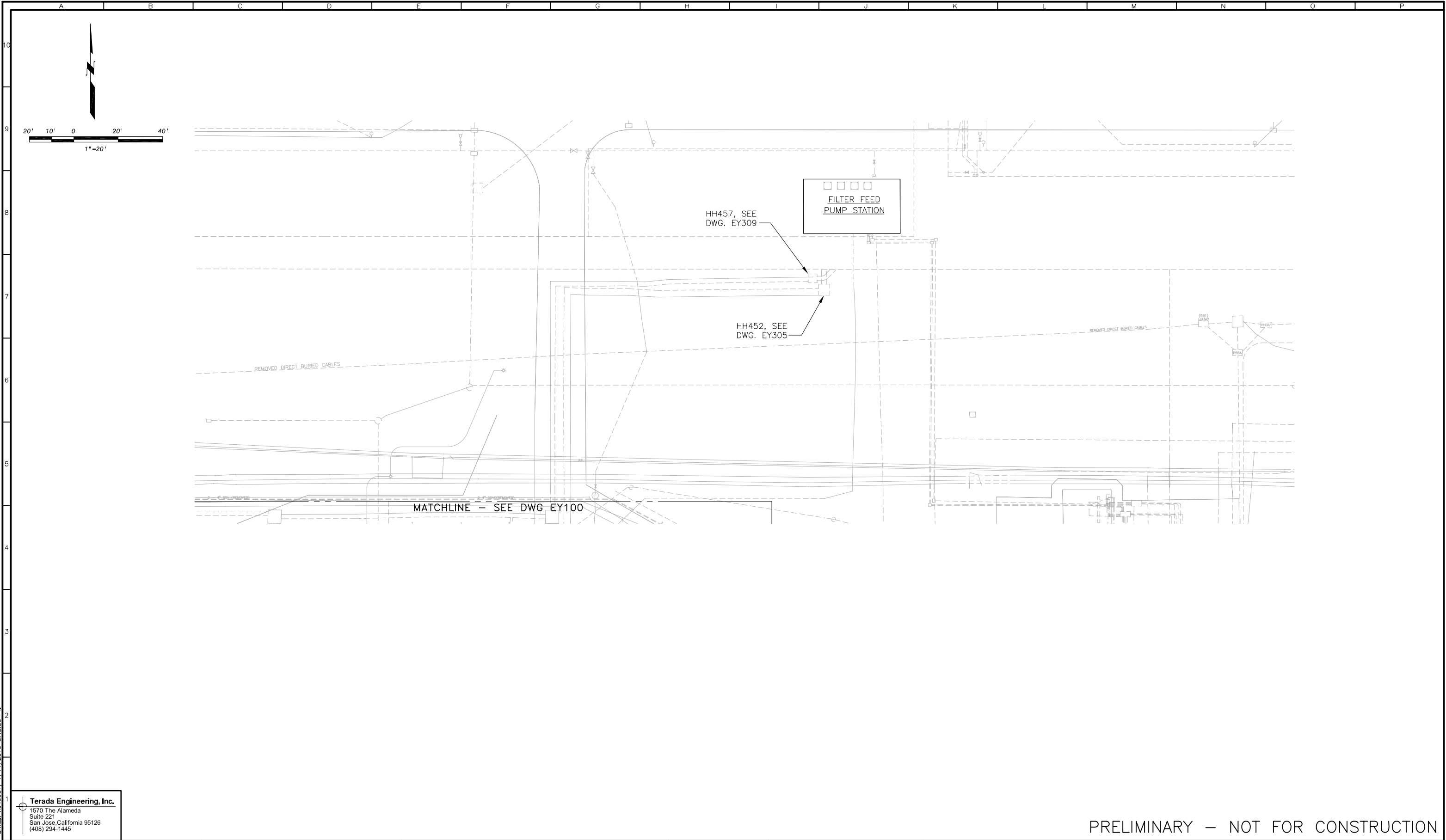
EY100

SHEET NUMBER

148 OF 236



PLOTTED: T140961, 1/14/2010 3:48:04 PM  
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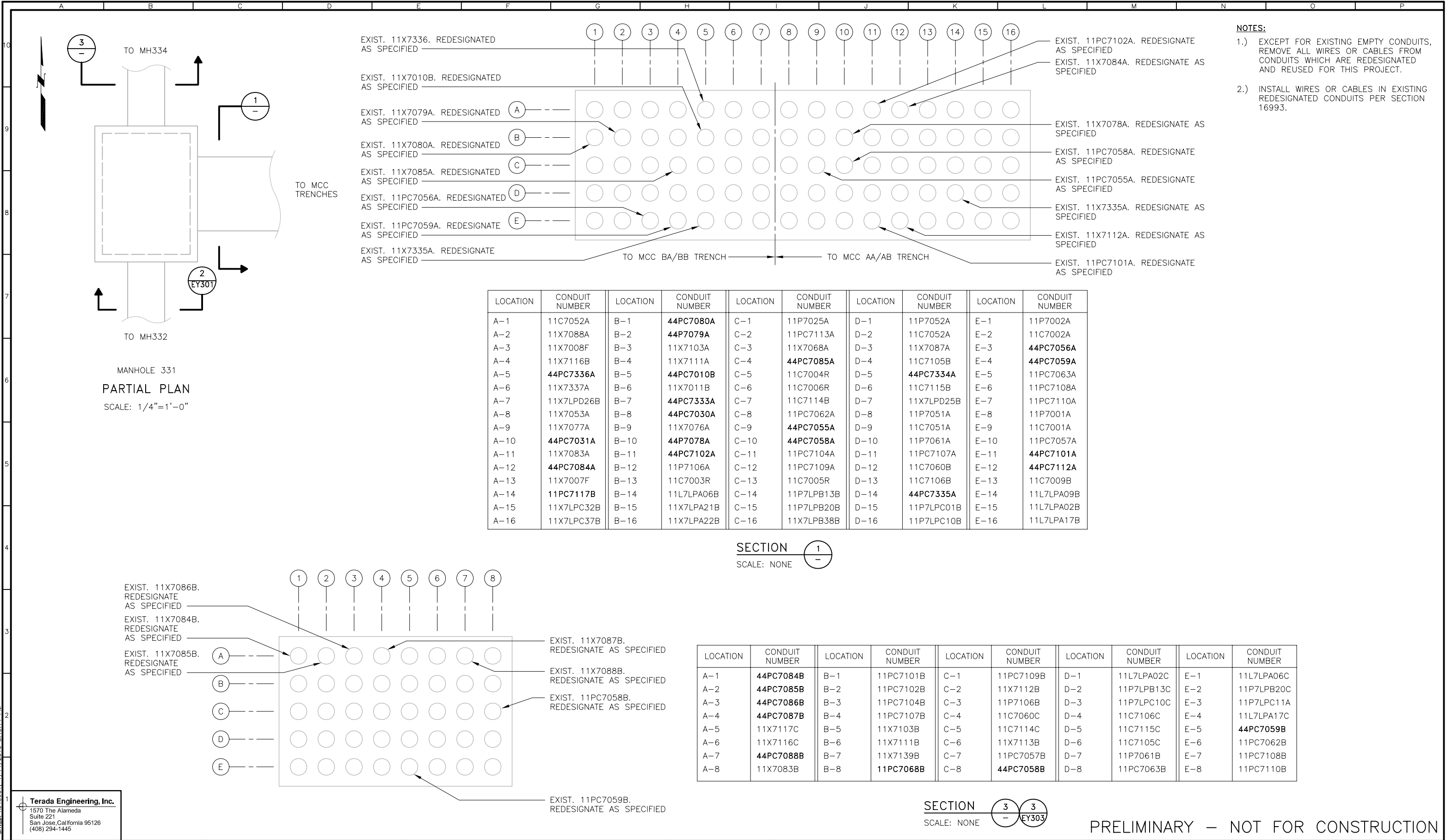
PRELIMINARY – NOT FOR CONSTRUCTION

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			ZONE	REV.	DESCRIPTION	BY	DATE	APP.																																																					
	C	100% SUBMITTAL		01/10																																																									
FILE <b>EY101</b> DRAWN <u>L. R. CASTILLO</u> DESIGNED <u>R. TERADA</u> CHECKED _____		SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT WATER RECLAMATION FACILITY EXPANSION PROJECT – PHASE II	DRAWING NUMBER <b>EY101</b>  SHEET NUMBER 149 OF 236																																																										

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ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)

FILE: EY300

DRAWN: L. R. CASTILLO

DESIGNED: R. TERADA

CHECKED:

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT WATER RECLAMATION FACILITY EXPANSION PROJECT - PHASE II

ELECTRICAL

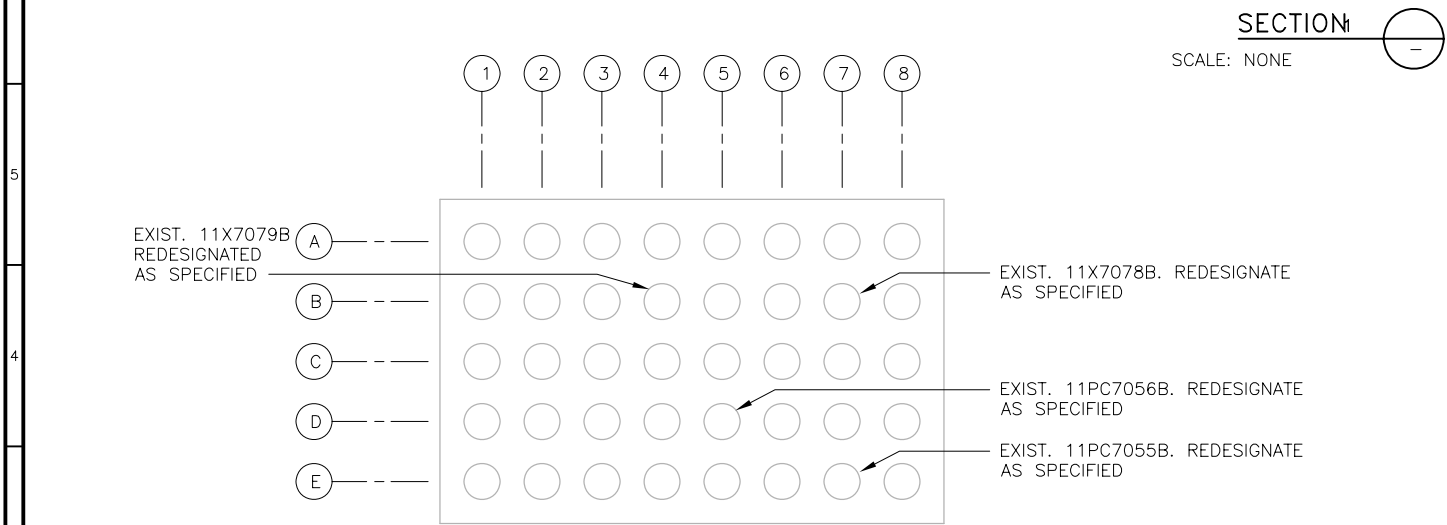
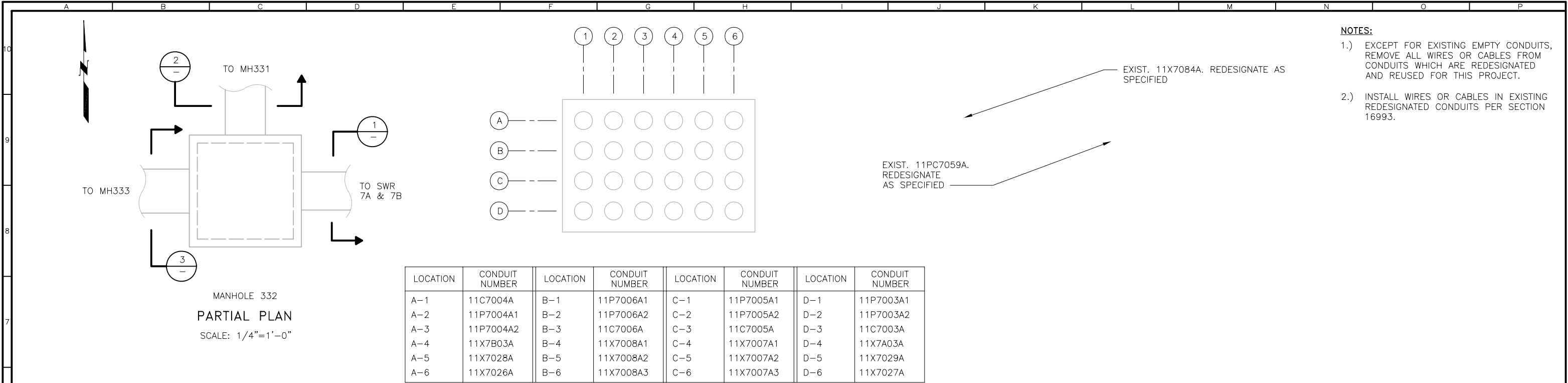
EXISTING MANHOLE 331 AND DUCT BANK SECTIONS

SCALE: NONE

DRAWING NUMBER: EY300

SHEET NUMBER: 150 OF 236

PLOTTED: TUE0961, 1/14/2010 1:49:29 PM  
 SAVED: TUE0961, 1/14/2010 1:49:18 PM



LOCATION	CONDUIT NUMBER	LOCATION	CONDUIT NUMBER	LOCATION	CONDUIT NUMBER	LOCATION	CONDUIT NUMBER	LOCATION	CONDUIT NUMBER
A-1	11X7007G	B-1	11X7010C	C-1	11C7004S	D-1	11C7009C	E-1	11C7006S
A-2	11X7008G	B-2	11X7011C	C-2	11C7005S	D-2	11C7003S	E-2	11C7054A
A-3	11X7053B	B-3	11X7077B	C-3	11P7025B	D-3	11P7002B	E-3	11C7052B
A-4	11X7LPC32C	B-4	44P7079B	C-4	11X7080B	D-4	11C7002B	E-4	11P7LPC01C
A-5	11X7336B	B-5	11X7030B	C-5	11P7051B	D-5	44PC7056B	E-5	11P7052B
A-6	11X7LPB38B	B-6	11X7031B	C-6	11X7076B	D-6	11P7001B	E-6	11L7LPA09C
A-7	11X7334B	B-7	44P7078B	C-7	11X7LPA21C	D-7	11C7001B	E-7	44PC7055B
A-8	11X7335B	B-8	11X7333B	C-8	11X7LPA22C	D-8	11P7LPB28A	E-8	11C7051B

LOCATION	CONDUIT NUMBER	LOCATION	CONDUIT NUMBER	LOCATION	CONDUIT NUMBER	LOCATION	CONDUIT NUMBER	LOCATION	CONDUIT NUMBER	LOCATION	CONDUIT NUMBER
A-1	11X7333C	B-1	11X7A03B	C-1	11C7009D	D-1	11X7010D	E-1	11X7011D	F-1	11C7054B
A-2	11X7LPB38D	B-2	11X7334C	C-2	44P7079C	D-2	11X7080C	E-2	11P7LPC01D	F-2	11C7052C
A-3	11X7LPA21D	B-3	44P7078C	C-3	11P7002C	D-3	11C7002C	E-3	11P7025C	F-3	11P7052C
A-4	11X7053C	B-4	11X7B03B	C-4	44PC7055C	D-4	11X7077C	E-4	44PC7056C	F-4	11P7LPB28B
A-5	11X7027B	B-5	11X7076C	C-5	11P7001C	D-5	11C7001C	E-5	11P7051C	F-5	11C7051C
A-6	11X7028B	B-6	11X7029B	C-6	11X7030C	D-6	11X7031C	E-6	11X7026B	F-6	11L7LPA09D
A-7	11X7007B3	B-7	11X7008B3	C-7	11C7003B	D-7	11C7004B	E-7	11C7005B	F-7	11C7006B
A-8	11X7007B1	B-8	11X7008B1	C-8	11P7003B1	D-8	11P7004B1	E-8	11P7005B1	F-8	11P7006B1
A-9	11X7007B2	B-9	11X7008B2	C-9	11P7003B2	D-9	11P7004B2	E-9	11P7005B2	F-9	11P7006B2

Terada Engineering, Inc.  
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SECTION  
SCALE: NONE

2  
-  
2

EY302

SECTION  
SCALE: NONE

3  
-  
2

EY302

PRELIMINARY – NOT FOR CONSTRUCTION

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SRCS D

REGISTERED PROFESSIONAL ENGINEER  
No. E9236  
Exp. 9-30-11  
ELECTRICAL  
STATE OF CALIFORNIA

REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"-SCALE ACCORDINGLY)

FILE EY301  
DRAWN L. R. CASTILLO  
DESIGNED R. TERADA  
CHECKED

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT – PHASE II

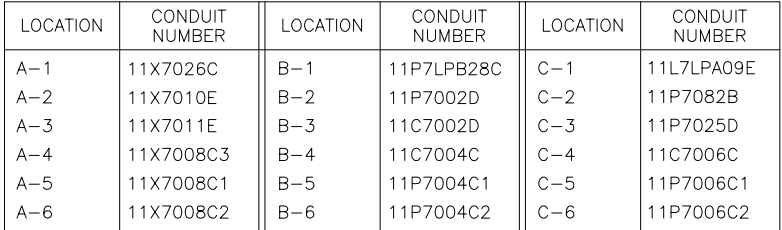
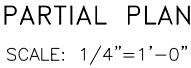
ELECTRICAL

EXISTING MANHOLE 332 AND  
DUCT BANK SECTIONS

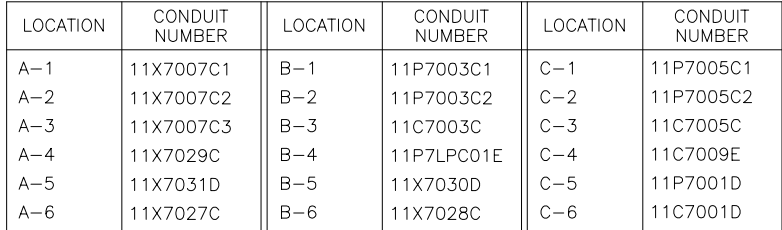
SCALE  
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DRAWING NUMBER  
EY301

SHEET NUMBER  
151 OF 236

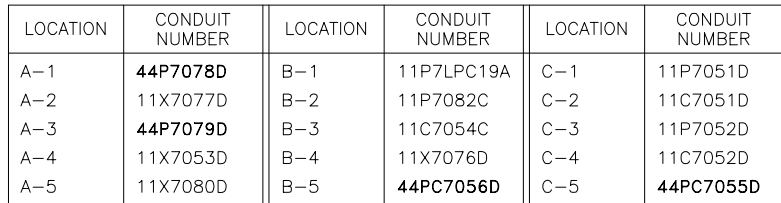


SECTION 3  
SCALE: NONE



SECTION 4  
SCALE: NONE

- NOTES:**
- 1.) EXCEPT FOR EXISTING EMPTY CONDUITS, REMOVE ALL WIRES OR CABLES FROM CONDUITS WHICH ARE REDESIGNATED AND REUSED FOR THIS PROJECT.
  - 2.) INSTALL WIRES OR CABLES IN EXISTING REDESIGNATED CONDUITS PER SECTION 16993.



SECTION 1  
SCALE: NONE

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San Jose, California 95126  
(408) 294-1445



LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"=SCALE ACCORDINGLY)

FILE EY302  
DRAWN L. R. CASTILLO  
DESIGNED R. TERADA  
CHECKED \_\_\_\_\_

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"=SCALE ACCORDINGLY)

FILE EY302  
DRAWN L. R. CASTILLO  
DESIGNED R. TERADA  
CHECKED \_\_\_\_\_

CONTRACT NUMBER

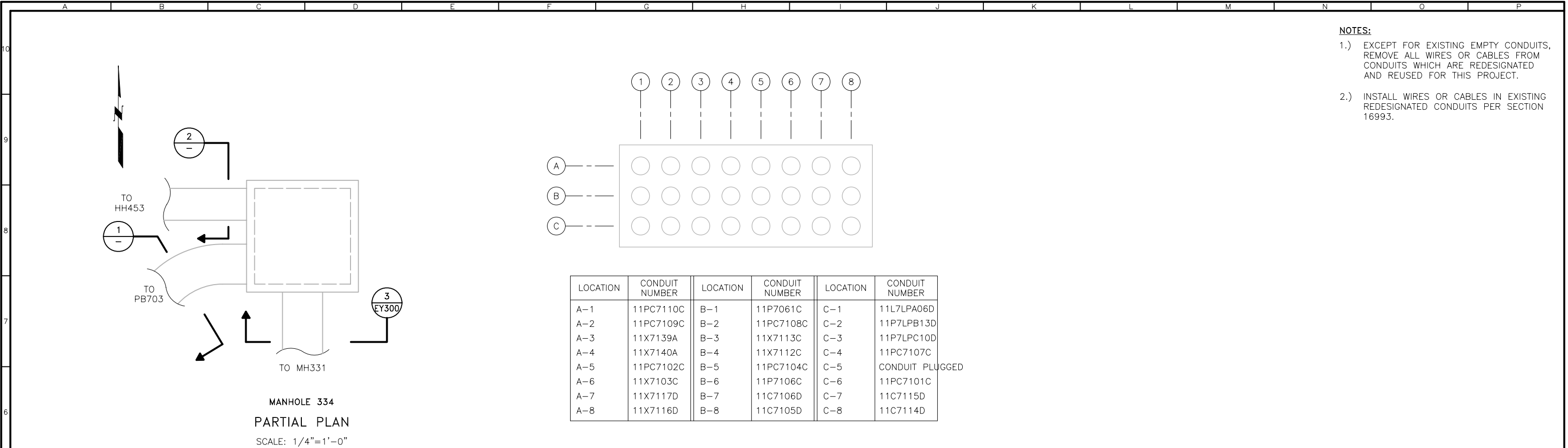
SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT – PHASE II

EXISTING MANHOLE 333 AND  
DUCT BANK SECTIONS

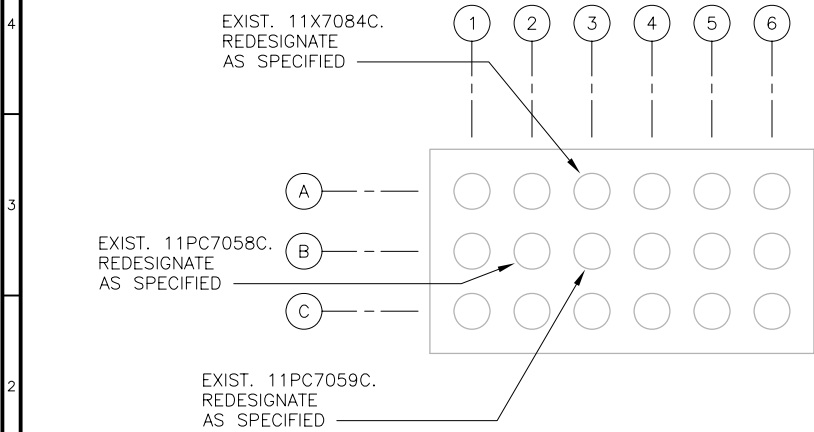
SHEET NUMBER  
152 OF 236

PRELIMINARY – NOT FOR CONSTRUCTION

PLOTTED: TUE0961, 1/14/2010, 3:50:17 PM  
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 BDR342202



SECTION 1  
 SCALE: NONE



SECTION 2 3  
 SCALE: NONE

\*11L7LPA17G AT HH453

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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)

FILE **EY303**

DRAWN L. R. CASTILLO

DESIGNED R. TERADA

CHECKED \_\_\_\_\_

CONTRACT NUMBER \_\_\_\_\_

SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT WATER RECLAMATION FACILITY EXPANSION PROJECT – PHASE II

ELECTRICAL

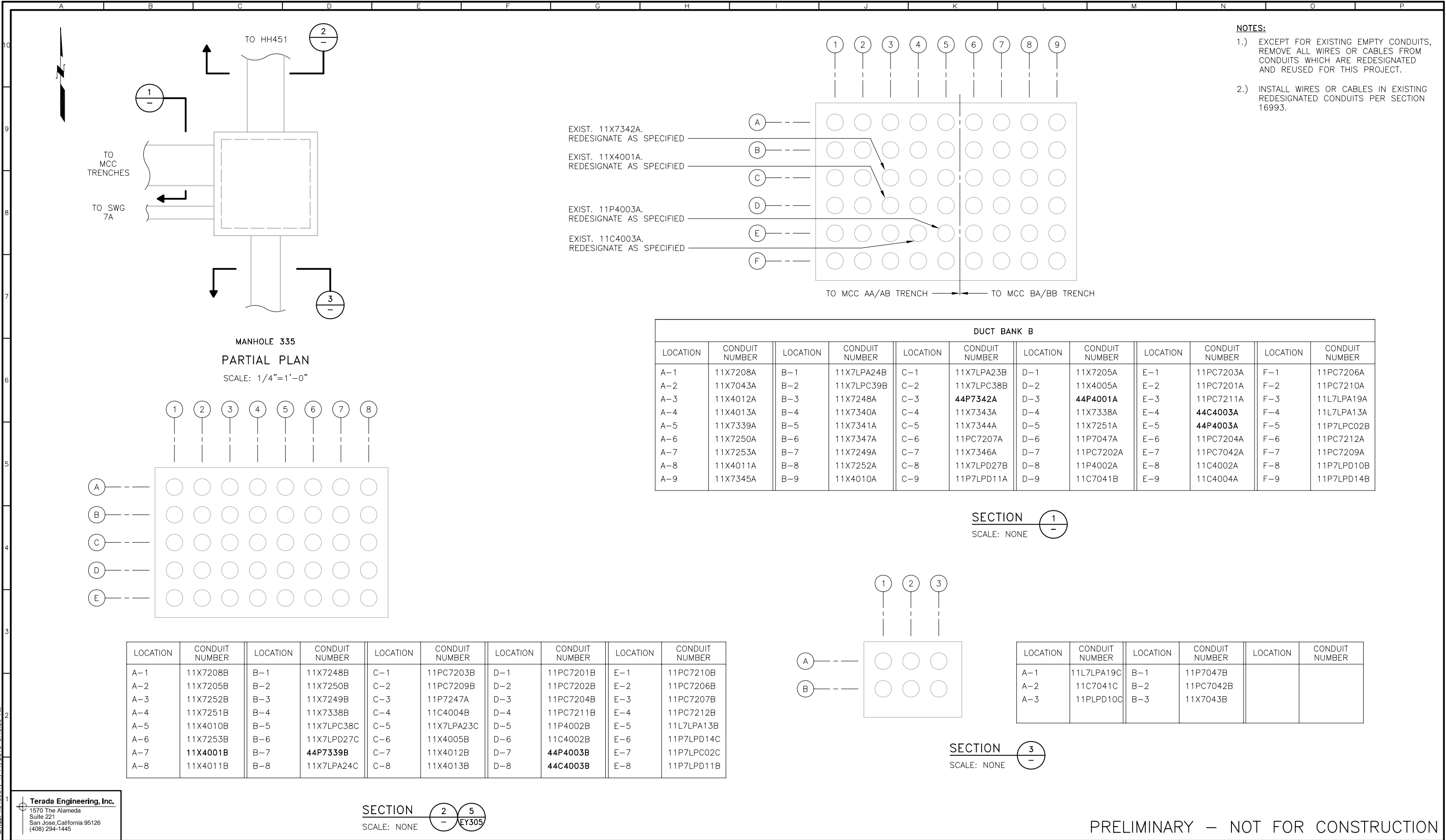
EXISTING MANHOLE 334 AND DUCT BANK SECTIONS

SCALE  
NONE

DRAWING NUMBER  
**EY303**

SHEET NUMBER  
153 OF 236

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 F00342202  
 BDR342202



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San Jose, California 95126  
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SECTION 2-5  
SCALE: NONE

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REGISTERED PROFESSIONAL ENGINEER  
ROBERT TERADA  
No. E9236  
Exp. 9-30-11  
ELECTRICAL  
STATE OF CALIFORNIA

REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"-SCALE ACCORDINGLY)

FILE EY304  
DRAWN L. R. CASTILLO  
DESIGNED R. TERADA  
CHECKED

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT - PHASE II

ELECTRICAL

EXISTING MANHOLE 335 AND  
DUCT BANK SECTIONS

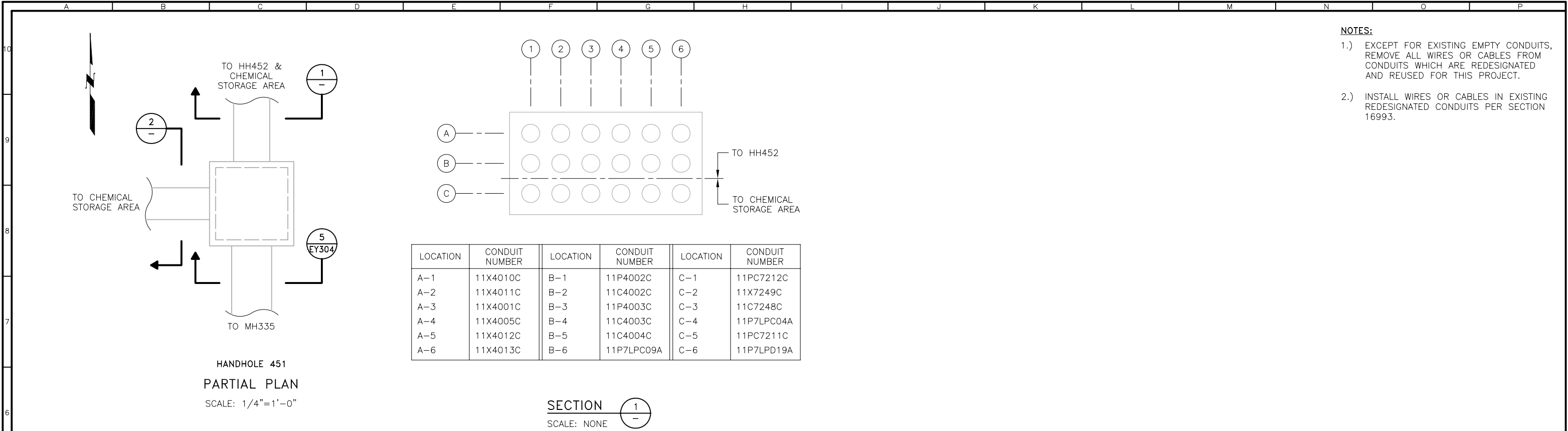
SCALE  
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DRAWING NUMBER  
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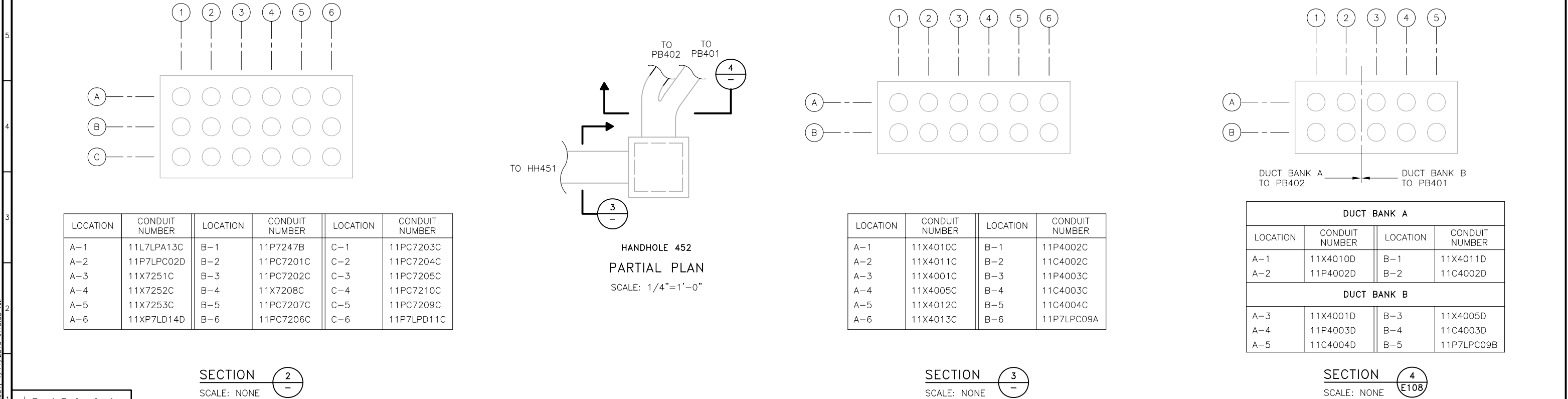
SHEET NUMBER  
154 OF 236

F00342202  
 BDR342202

PLOTTED: TUE0961, 1/14/2010, 3:52:20 PM  
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 F00342202  
 BDR342202



- NOTES:**
- EXCEPT FOR EXISTING EMPTY CONDUITS, REMOVE ALL WIRES OR CABLES FROM CONDUITS WHICH ARE REDESIGNATED AND REUSED FOR THIS PROJECT.
  - INSTALL WIRES OR CABLES IN EXISTING REDESIGNATED CONDUITS PER SECTION 16993.



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	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES  
AT FULL SIZE  
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FILE **EY305**  
DRAWN L. R. CASTILLO  
DESIGNED R. TERADA  
CHECKED \_\_\_\_\_

CONTRACT NUMBER \_\_\_\_\_

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT – PHASE II

ELECTRICAL

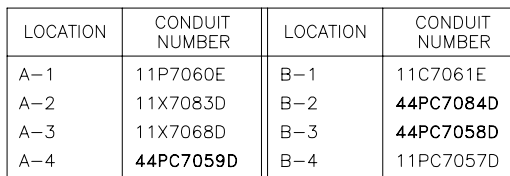
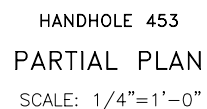
EXISTING HANDHOLES 451 & 452 AND  
DUCT BANK SECTIONS

SCALE  
NONE

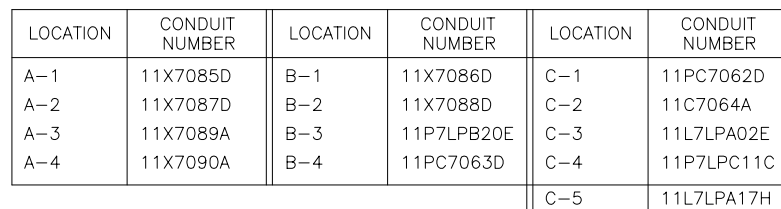
DRAWING NUMBER  
**EY305**

SHEET NUMBER  
155 OF 236





SECTION 2  
SCALE: NONE



SECTION 1  
SCALE: NONE

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REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP
	C	100% SUBMITTAL		01/10	

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(IF NOT 2" - SCALE ACCORDINGLY)

FILE EY306  
DRAWN L. R. CASTILLO  
DESIGNED R. TERADA  
CHECKED \_\_\_\_\_

CONTRACT NUMBER

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT – PHASE II

ELECTRICAL

EXISTING HANDHOLE 453 AND  
DUCT BANK SECTIONS

SCALE  
NONE

DRAWING NUMBER

EY306

SHEET NUMBER  
156 OF 236

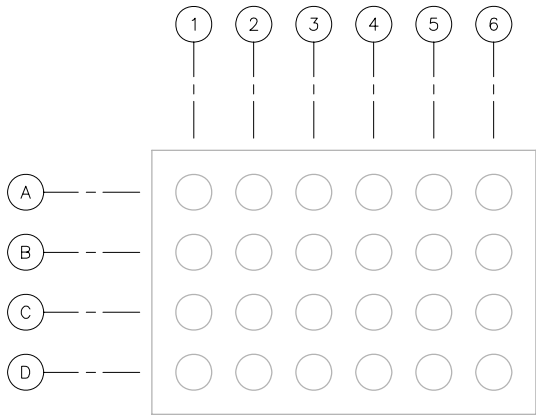
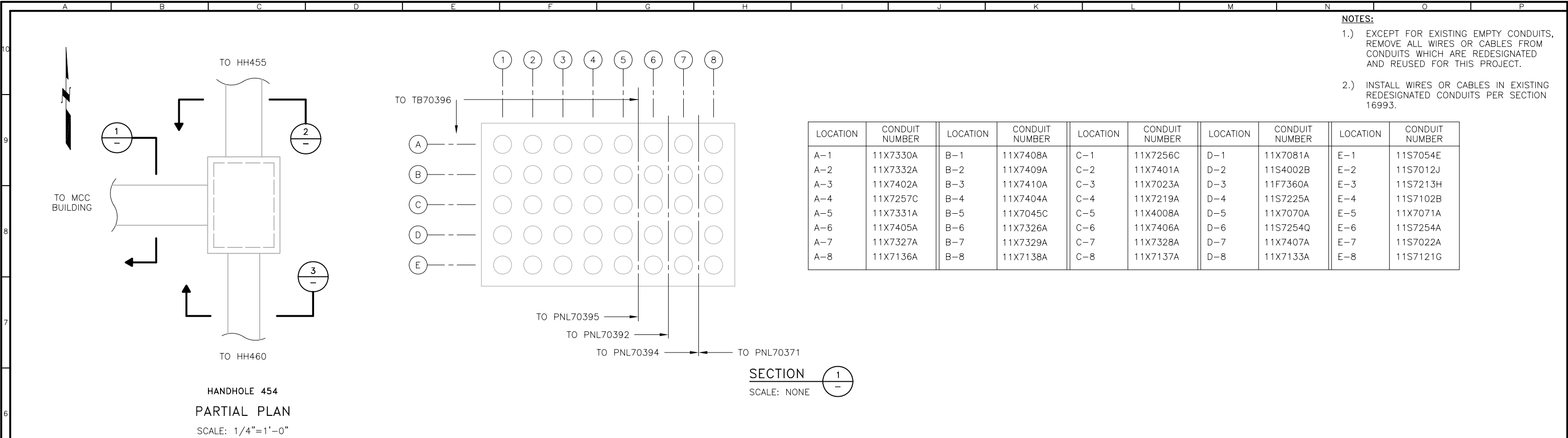
NOTES:

- 1.) EXCEPT FOR EXISTING EMPTY CONDUITS, REMOVE ALL WIRES OR CABLES FROM CONDUITS WHICH ARE REDESIGNATED AND REUSED FOR THIS PROJECT.
- 2.) INSTALL WIRES OR CABLES IN EXISTING REDESIGNATED CONDUITS PER SECTION 16993.

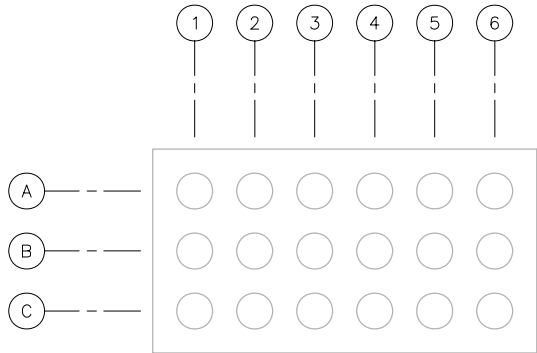
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SAVED: TIJ40961, 1/11/2010 9:45:36 AM

FBDR3422D2  
BDR3422D2

PLOTTED: TUE0961, 1/14/2010, 3:54:17 PM  
 SAVED: TUE0961, 1/14/2010, 9:43:23 AM



LOCATION	CONDUIT NUMBER	LOCATION	CONDUIT NUMBER	LOCATION	CONDUIT NUMBER	LOCATION	CONDUIT NUMBER
A-1	11X4014D	B-1	11S4002C	C-1	11X7258A	D-1	11X7259A
A-2	11X4009A	B-2	11X4008B	C-2	11X7091A	D-2	11S7121F
A-3	11S7060F	B-3	11X7070B	C-3	11X7092A	D-3	11S7213G
A-4	11S7069A	B-4	11X7071B	C-4	11X7102C	D-4	11X7133B
A-5	11X7219B	B-5	11X7256B	C-5	11X7257B	D-5	11X7245D
A-6	11S7225B	B-6	11S7254B	C-6	11S7254P	D-6	11X7246D



LOCATION	CONDUIT NUMBER	LOCATION	CONDUIT NUMBER	LOCATION	CONDUIT NUMBER
A-1	11S7054D	B-1	11X7081B	C-1	11X7045B
A-2	11X7032A	B-2	11X7033A	C-2	11X7404B
A-3	11X7023B	B-3	11X7024C	C-3	11X7405B
A-4	11S7012H	B-4	11S7022B	C-4	11X7406B
A-5	11F7360B	B-5	11X7402B	C-5	11X7407B
A-6	11X7401B	B-6	11X7403A	C-6	11X7408B

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REGISTERED PROFESSIONAL ENGINEER  
ROBERT TERADA  
No. E9236  
Exp. 9-30-11  
ELECTRICAL  
STATE OF CALIFORNIA

REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	C	100% SUBMITTAL		01/10	

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"-SCALE ACCORDINGLY)

FILE EY307  
DRAWN L. R. CASTILLO  
DESIGNED R. TERADA  
CHECKED

SACRAMENTO REGIONAL COUNTY  
SANITATION DISTRICT  
OF SACRAMENTO COUNTY, CALIFORNIA

SACRAMENTO REGIONAL  
WASTEWATER TREATMENT PLANT  
WATER RECLAMATION FACILITY  
EXPANSION PROJECT - PHASE II

ELECTRICAL

EXISTING HANDHOLE 454 AND  
DUCT BANK SECTIONS

SCALE  
NONE

DRAWING NUMBER  
EY307

SHEET NUMBER  
157 OF 236

PRELIMINARY - NOT FOR CONSTRUCTION

CONTRACT NUMBER